



BOARD OF REGENTS
University of Maryland Global Campus
December 20, 2024

AGENDA FOR PUBLIC SESSION

8:30 A.M.

Call to Order

Chair Gooden

PUBLIC COMMENT

Welcome from the University of Maryland Global Campus President Gregory Fowler

Educational Forum: *Update on and Discussion of Intercollegiate Landscape* Jennifer Fraser
NCAA Vice President of Division 1

Chancellor's Report Chancellor Perman

1. Report of Councils

- a. Council of University System Faculty Dr. Haverback
- b. Council of University System Staff Dr. Patricio
- c. Council of University System Presidents President
Breux
- d. University System of Maryland Student Council Ms.
Gambhir

2. Consent Agenda Chair Gooden

- a. Committee of the Whole
 - i. Approval of meeting minutes from November 22, 2024, Public and Closed Sessions (action)
- b. Committee on Advancement
 - i. Approval of meeting minutes from December 4, 2024, Public and Closed Sessions (action)
- c. Committee on Education Policy & Student Life and Safety
 - i. Minutes of the December 3, 2024 Public Session (action)
 - ii. Academic Program Proposals (action)
 - 1. UMB: Doctor of Social Work (DSW)
 - 2. UMB: Master of Science (MS) in Medical and Health Studies
 - 3. UMB: Master of Science (MS) in AI Drug Development
 - 4. BSU: Bachelor of Science (BS) in Immersive Media, Entertainment, and Gaming
 - 5. SU: Bachelor of Science (BS) in Coastal Engineering

- 6. UBalt: Bachelor of Science (BS) in Artificial Intelligence (AI) for Information Technology (IT) Operations
 - 7. UBalt: Master of Science (MS) degree in User-Centered Cybersecurity
 - iii. Humanities across the USM (information)
 - iv. USM Report on Academic Program Actions Delegated to the Chancellor, AY 2024-2025 (Information)
 - v. Notification of Awards: Wilson H. Elkins Professorships, FY25 and USM Scholarships, AY 2024-2025 (Information)
 - vi. Universities at Shady Grove Update: Partnership Council and Super Studio (Information)
 - d. Committee on Finance
 - i. Approval of meeting minutes from December 4, 2024, Public and Closed Sessions (action)
 - ii. University of Maryland, Baltimore: Lease of 635 W. Lexington Street to the American Cancer Society and Termination of 1983 Lease and Agreement for 636 W. Lexington Street (action)
 - iii. University of Maryland, College Park: Early Renewal and Modification of the Workday Contract (action)
 - iv. University of Maryland, College Park: Sole Source Contract for Food Products, Chemical Products and Non-Food Products for Dining Services (action)
 - v. USM Sponsored Supplemental Retirement Plans – 403(b) Plan and 457(b) Plan Restatement (action)
 - vi. University of Baltimore: Regional Tuition for MBA program at USM Hagerstown (action)
 - vii. University System of Maryland: Report on FY 2024 Procurement Contracts (information)
 - e. Committee on Governance & Compensation
 - i. Approval of Meeting Minutes from October 30, 2024 Public and Closed Sessions (action)
 - ii. Approval of Audit & ICA Committee Charge (action)
 - iii. Towson University Bonuses based on Retention (information)
3. Review of Items Removed from Consent Agenda
4. Committee Reports
- a. Committee of Research and Economic Development
 - i. Research and Economic Development Update on Research Regent Wood

Vice Chancellor Masucci
 - b. Committee of the Whole
 - i. Initial Report of the HIEDA Task Force Regent Smarick

Sr. Vice Chancellor Herbst
5. Reconvene to Closed Session (action) Chair Gooden



Report to the USM Board of Regents

Chancellor Jay A. Perman

University of Maryland Global Campus | December 20, 2024

Thank you, Madame Chair.

I'm well aware that, for many, this meeting is among the last items between work and the winter break. And so my holiday gift to all of you is a comparatively brief Board report. Of course, that effort is helped by the fact that we met four short weeks ago.

UNIVERSITY EXCELLENCE

Let me begin with our host today, the University of Maryland Global Campus. As President Fowler noted, there's a lot to celebrate. Recent months have seen transformative grants, one from the Gates Foundation to model strategies for reaching underserved students, and one from the U.S. Department of Labor to expand apprenticeship pathways to high-demand technology jobs. UMGC has launched a more flexible MBA, and a program giving college credit for military service experience.

UMGC's students are shining on the regional stage. The university's cyber teams took first, second, *and* fourth place in a recent Mid-Atlantic competition. Almost a clean sweep, Dr. Fowler. Congratulations.

Let's broaden our focus to the System writ large. Bowie State University has announced a new tuition-free program helping 75 Maryland teachers earn National Board Certification. The initiative focuses on boosting the number of Black men who achieve the distinction, enhancing teacher quality—and education equity—across Maryland. President Breaux, you know how important this initiative is to implementing the K12 Blueprint. Thank you for your leadership.

The University of Maryland, College Park is celebrating the third-largest gift in Maryland Athletics history—\$18 million from alumnus Stephen Schanwald, formerly a senior leader in the Chicago Bulls organization and a sports marketing pioneer. Of the overall gift, \$10 million will go to the Athletics Department and \$8 million to the Smith School of Business, endowing its Sports Management Program and providing student scholarships. Congratulations, President Pines.

The BioPark at University of Maryland, Baltimore just received \$2.2 million in city and state funds to support 35,000 square feet of flex lab space in the soon-to-open 4 MLK tower. The project is essential to helping researchers move their ideas from the lab to the marketplace and

critical to sustaining the state's competitiveness in life sciences innovation. I thank Regent Anderson for his invaluable support at Commerce, and I congratulate President Jarrell.

Let me mention those last two schools again. On the NSF's latest survey of research productivity, the combined R&D expenditures of College Park and UMB—linked in the survey as one research enterprise—reached almost \$1.4 billion, up \$157 million over the previous year. This total ranked 18th among all U.S. universities and 11th among publics. There's a lot of life-changing, world-changing work in those numbers. Thank you both.

Coppin State University has joined Baltimore City's Live Near Your Work program, fostering employee homeownership in nearby neighborhoods in a bid to strengthen the fabric of its West Baltimore community. Grants to employees start at \$50,000 to help cover down payments and closing costs. I know this program well from my time at UMB, and it was a game-changer for our employees and our neighborhoods alike. Thank you, President Jenkins.

Towson University is one of only 22 U.S. universities to be designated a National Center of Academic Excellence in cyber operations by the NSA, a designation that will last through 2030. TU is also an NSA Center of Academic Excellence in cyber defense education. Congratulations, President Ginsberg.

The University of Baltimore's Center for Entrepreneurship and Innovation has inked a new partnership with the Funding Innovation Studio to improve access to capital for underrepresented entrepreneurs. Part of the famed LabCentral ecosystem out of Cambridge, Massachusetts, the program boosts funding opportunities and inclusion for founders of color and for women. Congratulations, President Schmoke.

The University of Maryland Eastern Shore is also celebrating a new partnership. Last month, United Airlines announced UMES as the latest partner in its Aviate program. Aviate helps student-pilots earn advanced certifications, accrue flight hours, and eventually land jobs with the airline. Congratulations, President Anderson.

I want to group our HBCUs together for a moment. The college resource site OnlineU studied the return on investment among the country's historically Black institutions, taking into account college costs, grants and scholarships, loan payments and interest, and median salary over time. For overall ROI, Bowie State came in second nationwide and Coppin State, sixth. For first-year salaries, Coppin ranked second and Bowie, seventh. Among small HBCUs with the best alumni salaries, Coppin took second place, and UMES, seventh. There's a lot to be proud of here, and I thank our HBCU leaders.

Salisbury University held its biannual Shore Hatchery competition, sponsored by the Ratcliffe Foundation, inviting entrepreneurs to vie for \$100,000 in prize money. The top award went to Marins Med for its specialized prosthetic device improving functionality for amputees. In the decade since Salisbury launched the Hatchery, award winners, together, have notched profits of \$35 million a year and created nearly 1,200 local jobs. Thank you, President Lepre.

Frostburg State University is once again honored by the ALL IN Campus Democracy Challenge. Its 2024 Most Engaged Campus designation recognizes its success in student voting participation. In fact, fully half of our universities were acknowledged for their outstanding efforts to grow student voting: Towson, UBalt, College Park, UMB, and UMBC were recognized alongside Frostburg. Congratulations, Mr. Delia.

An interdisciplinary team at UMBC has won a \$3.4 million NIH grant to explore alternatives to health interventions for vulnerable people—in a bid to curtail the country’s overreliance on clinical medicine. Partnering with a major Medicaid health plan, the team will build a machine-learning system to identify patients with social stressors—like food insecurity or unstable housing—and determine how best to connect them with long-term social supports. Thank you, President Sheares Ashby.

The University of Maryland Center for Environmental Science is leading a collaboration with China, aimed at cutting emissions of nitrous oxide, a potent greenhouse gas. UMCES researchers traveled to Zhejiang University to meet with their Chinese counterparts and begin drafting the Hangzhou Joint Statement, accelerating progress on U.S. State Department commitments regarding bilateral U.S.–China cooperation on GHG reductions. Incredible leadership, Dr. Miralles-Wilhelm.

Turning to our regional higher education centers, the USM at Southern Maryland hosted 150 Maryland Corps members contributing a year of paid service to the state. It’s a program of the Maryland Department of Service and Civic Innovation intended to nurture personal and professional growth, while targeting young talent to areas of greatest need. How vital to bring this program to Southern Maryland, where some participants might stay and do the region a world of good. I understand they’re looking to bring back a huge group this spring, Dr. Abel. Congratulations.

The USM at Hagerstown held its annual Feaste & Frolic fundraiser, which netted more than \$116,000 for student scholarships. It’s the very first time that total gifts eclipsed the \$100,000 mark. Thank you, Dr. Ashby.

Last week, the Universities at Shady Grove was named a Center of Excellence by the U.S. Department of the Treasury for its expansive work in driving opportunities for local entrepreneurs. The designation unlocks resources that will help USG support small companies looking to do business with the Treasury Department. USG is among the first five organizations in the country to earn the designation. I was honored to join you, Dr. Khademian.

FROSTBURG STATE UNIVERSITY

Before I close, I want to acknowledge Dr. Justin Dunmyer, interim chair of the Frostburg faculty, and Vice Chair Shoshana Brassfield, who went to some effort to come out here today and speak during public comment. I’m fortunate to have met with the leadership of Frostburg’s Faculty Senate a few times since last summer, when the university announced its plan to close a \$7.7

million structural deficit. I've been grateful for the candor and counsel of both Dr. Dunmyer and Dr. Brassfield.

As you're aware, part of the plan to restore Frostburg's financial stability involves faculty retrenchment. It's not an action any of our universities takes lightly. It's not an action the *System* takes lightly.

But it is necessary—together with several other cost-cutting measures now in progress. I thank Frostburg's faculty for its participation on the team responsible for shaping this budget plan. And I thank the faculty for their leadership on the committee charged with identifying departments and fellow faculty members for retrenchment. As difficult as these decisions were, they were made by the people with the greatest stake in them. This is shared governance in action.

It's during times of challenge that university policies must be followed faithfully and faultlessly. They were. It's during crises that communication with the university community must be frequent, transparent, and two-way. It's been all of those things. Still, I understand that fidelity to the process doesn't ease the pain of those affected by retrenchment. And I'm sorry.

The System has offered financial relief to Frostburg to minimize as much as possible the impact of cuts on the university's people. I meet monthly with Frostburg's leaders to monitor progress on budget objectives and outcomes. And this Board has been supportive of the university since being briefed last July on the plan to restore fiscal health.

And that *is* the plan: To restore fiscal health. In a shrinking higher ed landscape—with two dozen U.S. colleges closed this year alone and a projected 80 more by 2029—I want to be very clear that the System is supporting Frostburg expressly so that the university can regain full strength to serve its students, its region, and its state.

Frostburg is a model among anchor institutions, contributing enormously to the economy and the vitality of Western Maryland. That indispensable role—that very real value—is what we're protecting. Because Frostburg State is too important, to too many people, to do anything less.

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As we look ahead to 2025, I thank all of you for your uncompromising dedication to the students and the state we're so proud to serve. Madame Chair, this concludes my report.

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COUNCIL *of* UNIVERSITY SYSTEM FACULTY

Regents Report December 20, 2024

This is a summary report of The Council of University System Faculty (CUSF) activities since our last submission in November. The CUSF General Body Meeting was held on December 10, 2024.

CUSF Meetings

CUSF General Body Meeting: 10, 2024

A Council of University System Faculty General Body Meeting was held on December 10, 2024. The meeting was virtual. At this meeting, USM Senior Vice Chancellor for Academic and Student Affairs, Alison Wrynn discussed Frostburg University and answered questions. CUSF Chairperson, Heather Haverback shared updates and answered questions.

A discussion was held about the importance of working on a USM Faculty Bullying Policy. Kelsey Beckett, USM Chief of Staff and Director of Operations, USM Academic and Student Affairs, shared the history of the work that has been done on this previously.

During this meeting, CUSF passed three resolutions regarding collective bargaining rights for graduate students, collective bargaining rights for faculty, and Frostburg State University (brought forth by the Legislative Affairs Committee.)

Executive Committee

The Executive Committee members are:

- Heather Rogers Haverback, Chair- Towson University
- Tom Abrams, Vice Chair- University of Maryland, Baltimore
- Loretta N. Baryeh, Secretary- Coppin State University
- Lorenda Naylor, At Large Member- University of Baltimore
- Nagaraj Neerchal, At Large Member- University of Maryland, Baltimore County

The Executive Committee met on December 4, 2024. At both meetings Heather Haverback, Alison Wrynn, and Kelsey Beckett shared updates/reports with the committee. The Executive Committee was joined by the committee chairs, who discussed initiatives on which their committees were working.

Awards Committee

Chairperson- Ben Arah, Bowie State University

The CUSF Awards Committee members have been invited and agreed to participate in this year's work. The following faculty members are serving on the committee: Lorenda Naylor, Michel Cukier, James Pierson, and Atma Sahu. At our meeting, CUSF reviewed and approved the list of members for the 2024-2025 USM-BOR's Faculty Awards Committee. The committee noted the excellence of the applications this year and on time for their recommendations to the USM for consideration.

Education Policy Committee

Chairperson- Dr. Mary Crowley, University of Maryland Global Campus

The Kirwan Center approached the Education Policy Committee to ask that we co-sponsor another faculty showcase on AI. Given the Chancellor's charge to CUSF last month asking us to help socialize USM faculty on ways to use AI in their daily work as a step toward getting it in their classroom instruction, we have accepted the challenge and have successfully brought MarylandOnline & Montgomery College onboard again for additional support. At the moment, we are targeting a September 2025 date for the event.

As part of this event, the committee will be putting out a call for proposals from USM faculty to record 5-minute videos for a "lightening round" of quick interviews and how-tos in which instructors talk about how they use AI in their work, whether that's reviewing MRI images or sorting data, crafting quizzes, creating classroom chat bots, or writing emails.

The committee is also going to create a review panel that will meet periodically to solicit and review additional recordings that we're going to host on a CUSF YouTube platform for all faculty. We still have our existing bibliography of resources to post online, probably as a Wakelet, and other related ideas bubbling up that we want to pursue.

The committee's investigation of campus professional conduct policies continues. Once that review is completed, we'll make a report to CUSF with any call for action that may be warranted.

Academic Concerns Committee (ACC)

Chairperson- Dr. Doris Santamaria-Makang, Frostburg State University

CUSF's ACC includes three groups working on issues identified by its members and that are concerning faculty members across the USM institutions:

1. ***Campus Safety Group***: After revising and enhancing the Campus Safety survey, through Dr. Haverback's and CUSF's members help, the Survey was distributed across all USM

campuses. We have collected the responses from the USM institutions, and the Campus Safety Group will be working on analyzing and summarizing the data for the writing of the recommendations. Our next step will be to present the summary of the results and the recommendations to the CUSF body for discussion and approval before sending it to the BOR.

2. ***Affirmative Action/Diversity Group***: This group's focus has been on monitoring media outlets and higher ed resources such as Inside Higher Ed, etc. on the impact of DEI programs across the country. Southern states are seeing DEI programs being defunded, terminated, or renamed. Progressive states such as Maryland have continued advocating for DEI, social justice, and human rights.
3. ***Support Personnel Group***: The group has generated information to revise their survey and will have a version to deploy to CUSF in at the first spring meeting. It is based off of 11 questions pertaining to the number, types, and compensations of Graduate Assistants (GAs) and Adjunct Instructors. They have identified a number of means, when combined, that can help them understand the equity of employment for support positions within the System. Because this could be different among campuses, they will provide CUSF reps a list of recommended sources for inquiries. The group's next steps - in the next month, is to finalize these documents for distribution in the New Year.

Legislative Affairs Committee

Chairperson- Dr. Holly Brewer, University of Maryland, College Park

Legislative Affairs reiterates their support for collective bargaining for both faculty and graduate students, in the form of resharing and urging the general body to reconfirm such support, which they have done. The Legislative Affairs Committee also expresses their deep concern, as per the resolution, about the retrenchment situation at Frostburg state, and hope that the Board of Regents will consider what we have recommended, and now the general body has passed, in this resolution.

Research Committee

Chairperson- Drs. Tom Abrams and Miroslaw Janowski, University of Maryland, Baltimore

USM Research Portals. Research Faculty at University System of Maryland (USM) find themselves relatively isolated from colleagues at other campuses or even from colleagues at other schools on their own campus. Using current internet search strategies, it is just as easy to identify potential collaborators at US universities outside of Maryland as to form productive collaborations with faculty at other USM institutions. The proposed Research Portal platform would enable faculty to search for colleagues across the USM, a home for 16,000 faculty and 170,000 students. The Research Portal platform would also benefit students seeking mentors for internships or for graduate school. In the future, the organization of and searches on USM Research Portal platform could benefit from large language models and AI.

HyFlex to support collaborative research across USM. The HyFlex approach was developed in San Francisco two decades ago, and has gradually spread across the globe. HyFlex is defined as flexible hybrid, where participants who attend face-to-face remotely have equivalent access to participants who attend face-to-face in person. In fact, HyFlex enables face-to-face interactions even for participants in other countries. It was intended to dramatically improve course access for diverse student bodies. It has now been adapted to support a variety of collaborative discussions. USM lags behind many universities in adopting effective HyFlex infrastructure.

Appropriate and effective use of AI in research. The CUSF Research Committee is beginning to gain information about how USM researchers currently use AI to advance their research, and how they expect to do so in the future. These discussions will enable an understanding of the appropriate and effective use of AI in research.

Rules and Membership Committee

Chairperson- Dr. Jay Zimmerman, Towson University

The committee will be working on running an election for the C7 taskforce.

I look forward to updating you as we develop CUSF's priorities for the year.

Respectfully submitted,

Dr. Heather Rogers Haverback

CUSF Chair

FINAL CUSF Resolution on FSU Retrenchment

December 10 2024



COUNCIL of UNIVERSITY SYSTEM FACULTY

RESOLUTION from Legislative Affairs Committee of the Council of University System Faculty (CUSF) of the University System of Maryland (USM).

Approved by CUSF General Body on December 10, 2024, by a vote of 14 Yea, 6 Nay, 4 abstentions.

Whereas Frostburg State University has been running a substantial structural deficit due especially to a decline in student enrollment that was not effectively addressed by the FSU administration.

Whereas on September 6, 2024, greater than 80% of the Faculty of Frostburg State University (of a majority of the faculty present) passed a vote of no confidence in the FSU President, Ronald Nowaczyk, who has been president of the university since 2016.

Whereas during most of the past year, an Acting President Al Delia, who had no academic training or university administration experience in academic affairs, was leading Frostburg State University.

Whereas the Faculty of Frostburg State University also passed votes of no confidence in the former Acting President Al Delia..

Whereas this administration has nevertheless pushed forward a plan for retrenchment at Frostburg State University, requiring an extensive reduction in faculty lines, including a 25% reduction in tenured and tenure track FSU faculty in order to meet that structural deficit.

Therefore, CUSF resolves to recommend to the Board of Regents and the Chancellor of USM that no action be taken on retrenchment at Frostburg State University until a qualified acting administration has been appointed at Frostburg State University that the faculty trust to make sweeping, permanent, curricular decisions; and it has had time to review the financial situation and consider a broad range of possible actions to mitigate the deficit, with input from the entire faculty and from the Board of Regents about other strategies to responsibly grow student enrollment.

Resolution affirming CUSF support for Collective Bargaining Rights 12.10.2024



COUNCIL of UNIVERSITY SYSTEM FACULTY

Resolution affirming CUSF support for Collective Bargaining Rights

At our 12/10/2024 general meeting, CUSF (the Council of University System Faculty) voted to reaffirm our support of this resolution.
by a vote of 21 yea, 2 Nay, 4 abstentions.

"Resolution Reaffirming the CUSF Affirmative Position for Collective Bargaining Rights for University System of Maryland Faculty

Whereas, the Council of University System Faculty (CUSF) serves as the faculty advisory body for the University System of Maryland (USM); and

Whereas, CUSF Council passed 23-3 the following resolution on November 16, 2010 which was and still is the current position of CUSF regarding collective bargaining.

CUSF urges the Chancellor and the Board of Regents to support legislation extending the right to consider the alternative of collective bargaining to USM faculty. This is not an endorsement of collective bargaining. Rather CUSF would like each campus to have the right to consider collective bargaining if it chooses based on its circumstances, as other public sector employees, even on some of our campuses, already have done."

Submitted by Legislative Affairs Committee.

The motion above was passed every year by CUSF between 2010 and 2017, and then again in January 2024, for a total of 9 times previously.

n.b..The link to the 2017 minutes, which records the earlier votes, is here.

<https://www.usmd.edu/usm/workgroups/SystemFaculty/meetings/gen20171214.pdf>

CUSF Resolution in favor of removing restrictions on graduate student collective bargaining 12.10.2024



COUNCIL of UNIVERSITY
SYSTEM FACULTY

CUSF Resolution in Favor of Graduate Student Collective Bargaining
Passed at CUSF General Meeting on December 10, 2024

21 Aye, 2 Nay, 4 Abstentions

Whereas the Council of University System Faculty (the Council) consists of faculty representatives of the constituent institutions of the University System of Maryland (USM) to act as the shared governance faculty body; and

Whereas it is the Council's responsibility to consider and make recommendations on matters of System wide professional and educational concern to USM faculty; and

Whereas the Council advises the USM Chancellor and reports regularly to the USM Board of Regents on matters of interest to USM faculty; and

Whereas CUSF members and their constituents are committed to supporting graduate students at USM institutions, who represent the next generation of higher education teachers, researchers, and scholars; and

Whereas support for graduate students at USM universities is an excellent investment in the growth of the Maryland economy because USM graduate students contribute substantially to the next generation of Maryland leaders in education, business, health care, and research; and

Whereas pursuing a graduate education is inherently challenging, and unnecessary additional challenges related to financial support and compensation, health care benefits and working conditions create barriers to recruitment to and completion of graduate programs; and

Whereas CUSF members and their constituents have observed that students pursuing graduate studies at USM institutions face significant challenges relating to working conditions, financial support, compensation, and benefits; and

Whereas CUSF members and their constituents believe that these challenges have a deleterious effect on the education and research mission at USM institutions; and

Whereas USM graduate students have consistently expressed a desire to address these challenges by engaging in collective bargaining; and

Whereas bills proposed in the Maryland General Assembly in each of the last five years that would allow graduate students at USM institutions to engage in collective bargaining have earned consistent, overwhelming support from graduate students and USM faculty and staff; and

Whereas graduate students at many top research universities have formed collective bargaining units in recent years; and

Whereas graduate students are transitory employees with no direct, sustained professional ties to state government; and

Whereas graduate students at USM institutions do not have supervisory or managerial control over their institutions or working conditions; and

Whereas individual graduate students at USM institutions with a collective bargaining unit will have the option not to join or financially support a union;

Be it here resolved that the Council supports the amendment of Maryland law to allow graduate students at USM institutions to engage in collective bargaining.

Submitted by the Legislative Affairs Committee. Passed with slight changes to the first paragraph in February 2023 and January 2024.



COUNCIL OF UNIVERSITY SYSTEM STAFF

Bowie State University
PoC: Trish Johnson

Coppin State University
PoC: Yvonne Oliver

Frostburg State University
PoC: Amy Nightengale

Salisbury University
PoC: Lisa Gray

Towson University
PoC: Deniz Erman

University of Baltimore
PoC: Karen Karmiol

UM, Baltimore
PoC: Vivian Hill-Lawson

UM, Baltimore County
PoC: Roy Prouty

UMCES
PoC: Kevin Bruce

UM, College Park
PoC: Namrata Ram Andriessens

UM Eastern Shore
PoC: Chenita Reddick

UM Global Campus
PoC: Kathleen Hebbel

USM Office
PoC: George Samuel

Board of Regents Report December 20, 2024

The end of another year and another semester has arrived. There was great progress this semester in achieving additional benefits for non-bargaining staff. We are grateful that at the November 22, 2024 Board of Regents meeting you, the Regents, approved improved access to leave for all staff, including: [an increase in holiday](#) leave to 16 days (17 during a general election year); an increase to [4 personal days of leave during a leap year](#); and an increase of 10 days in the allowed amount of [leave carryover](#) annually. Additionally, campuses now have guidelines available to aid in the creation of [leave donation programs](#). The State of Maryland also [modernized a law](#) that offers more support for parents grieving from the loss of a child by offering the broader use of and expanded time for paid bereavement leave.

These are all wonderful points of progress to celebrate. We also have to acknowledge that it was a challenging semester: a tense election season; continued conflicts overseas leading to unrest on our campuses, with many students, faculty, and staff directly impacted; and several campuses (and the University System of Maryland (USM) itself) moving to new Enterprise systems, impacting virtually every facet of our daily work. All of this is happening in a time of financial unease and with significant mental health issues facing our students, while faculty and staff try to keep the wheels of campus turning.

The members of CUSS are diligently moving forward with our Action Plan, shared in my November 2024 report. We are also planning Advocacy Day 2025, a day where faculty, staff, and students gather in Annapolis to share with Maryland Legislators the good work of the USM and ask for their continued support. This year is particularly important for us, with the State of Maryland facing considerable budget constraints: We must demonstrate the value of the USM, our work, and how our support of students, the local economy, and the future of Maryland is worthy of continued investment.

Please do not hesitate to contact me directly (krp@umd.edu) with concerns, questions, and/or suggestions.

Most Sincerely,

Kalia R. Patricio, Ph.D.
CUSS Chair

Executive Committee
Kalia Patricio, PhD (Chair)
Roy Prouty (Vice Chair)
Kathleen Hebbel (MaL)
Vivian Hill-Lawson (MaL)
Trish Johnson (Co-Secretary)
Deniz Erman (Co-Secretary)
Laila Shishineh, EdD (Past Chair)

**Awards & Outreach
Committee Chairs**
Brian Jara & Deniz Erman

SRSF Committee Chairs
Yvonne Oliver & Dave Gutoskey

LAP Committee Chairs
Shannon James & Lisa Gray

[FY25 Links](#)

[Schedule of Meetings](#)

[Roster](#)



COUNCIL OF UNIVERSITY SYSTEM PRESIDENTS
December 20, 2024

CUSP met in person on December 9, 2024 for the last meeting of the calendar year.

Associate Vice Chancellors Candace Caraco and Chad Muntz gave an overview of the JCR Student Cohort Report. This discussion presented a dynamic data tool that provides institutional-level data on first-time, in-state students enrolled within the USM.

Senior Vice Chancellor Wrynn led a discussion related to international student, faculty, and staff, noting that some universities around the country are advising those on visas to return to the US ahead of January 20.

Finally, the Council met with a panel of government affairs professionals to discuss priorities of the new administration and implications for higher education.



USM Student Council December 2024 Report to the USM Board of Regents

Good morning Chair Gooden, Chancellor Perman, the Board of Regents, and University Presidents,

We had our December general meeting earlier this month, and I want to thank President Breaux and Bowie State for welcoming us. We interviewed six Student Regent candidates and have forwarded three finalists to Chancellor Perman for his consideration.

The Directors for Government Relations also presented their report relating to the upcoming legislative session and Advocacy Day in February. They shared some information on advocating for the USM budget and other key legislation. They also sent out a survey to gather student legislative priorities and will be in touch to collect the stance of the council on various bills in preparation for Advocacy Day.

Finally, the Director of Communications and I have been working on creating a monthly newsletter system that compiles information, updates, and key events from across different campuses into one place to facilitate greater communication. At the previous meeting, we also briefly discussed including resources or guidance to support international students as they travel for the holidays in light of possible immigration changes in 2025.

Madam Chair, this concludes my report.

Happy Holidays!

Vainavi Gambhir

President, University System of Maryland Student Council



UNIVERSITY SYSTEM of MARYLAND

University System of Maryland Board of Regents
Universities at Shady Grove
Rita Rossi Colwell Center
November 22, 2024

Closed Minutes

Call to Order. Chair Linda Gooden called the meeting of the University System of Maryland Board of Regents to order at 11:07 a.m. on Friday, November 22, 2024, at the Universities at Shady Grove. Those in attendance included Chair Gooden; Regents Anderson, Breslin, Fish, Gonella, Hasan, Leggett, Lewis, McMillen, Mirani, Neuberger, Parker, Pope, Smarick, and Wood; Chancellor Perman; Ms. Wilkerson; and AAGs Bainbridge and Langrill. The following individuals were present for a portion of the meeting: Presidents Anderson and Lepre; Vice Chancellors Herbst, Lawrence, Masucci, Sandler, and Wrynn; and Ms. Mulqueen.

1. **Consent Agenda (action)**

Chair Gooden asked if there were items the Regents wished to remove from the consent agenda. Seeing none, the Regents voted to approve the consent agenda which included the items below. (moved by Chair Gooden; seconded by Regent Neuberger; unanimously approved)

- a. Committee on Finance
 - i. USM Common Trust Fund Investment Performance – University System of Maryland Foundation (information)
- b. Committee on Governance and Finance
 - i. Collective Bargaining Update (information)
- c. Committee on Advancement
 - i. Naming request from the University of Maryland, College Park and the University of Maryland, Baltimore (action)
 1. Edward & Jennifer St. John Center for Translational Engineering and Medicine
 - ii. Naming request from the University of Maryland, College Park (action)
Dingman-Lamone Center for Entrepreneurship

2. **Meeting with the Presidents (information)**

As part of their performance reviews, the Board met individually with Presidents Lepre and Anderson. (§3-305(b)(1)).

3. **Review of Certain Contracts and Employment Agreements (information)**

In accordance with its role under BOR VII-Policy on Board of Regents Review of Certain Contracts and Employment Agreements, the Board reviewed four contracts and employment letters. (§3-305(b)(1)).

4. Update on a Personnel Matter (information)

The Board received an update on an individual personnel matter at a USM institution. (§3-305(b)(1))

5. Review of a Personnel Matter at a USM Institution (action)

The Board heard a report of a review committee on an individual personnel matter at a USM institution. The Board considered a motion to accept the recommendation of the committee. (Moved by Regent Fish; seconded by Chair Gooden; unanimously approved.) (§3-305(b)(1))

The meeting adjourned 2:23 p.m.

MINUTES Public Session November 22 2024



UNIVERSITY SYSTEM
of MARYLAND

BOARD OF REGENTS
Universities at Shady Grove
November 22, 2024

AGENDA FOR PUBLIC SESSION

8:30 A.M.

Call to Order

Chair Gooden

Chair Linda Gooden called the meeting of the University System of Maryland Board of Regents to order at 8:30 a.m. on Friday November 22, 2024, at the Universities at Shady Grove. Those in attendance were: Chair Gooden; Regents Anderson, Atticks, Breslin, Fish, Gonella, Hasan, Leggett, Lewis, McMillen, Mirani, Neuberger, Parker, Pope, Smarick, and Wood; Presidents Anderson, Breaux, Fowler, Ginsberg, Jarrell, Jenkins, Lepre, Miralles-Wilhelm, Pines, Schmoke, Sheares-Ashby, and Provost Delia; Chancellor Perman; Vice Chancellors Herbst, Wrynn, Masucci, Lawrence, Sandler, Raley; Ms. Mulqueen, Mr. Muntz, Ms. Wilkerson, and AAGs Bainbridge and Langrill.

Chair Gooden welcomed everyone to the first board meeting after the annual retreat. She noted that the retreat allowed the Board to learn about the progress on implementing Vision 2030, the USM's strategic plan. The retreat indicated that the USM is making strides in completing the plan's goals across the plan's five strategic priorities. She shared that the board also heard a presentation from the Institute of Health Computing, heard a presentation from the AI Institute at University of Maryland College Park, and received a refresher on Middle States Standard VII.

Public Comment: Chair Gooden opened the period for public comment. There were two speakers. Aaron Grace Shriner from the University of Maryland College Park spoke on the shared governance awareness survey, noted that graduate workers were not included in the survey, and requested that the Board recognize voluntary recognition. Professor Daniel Greene from the University of Maryland College Park expressed a desire for the Board to support graduate student and faculty collective bargaining.

Welcome from the Universities at Shady Grove: Executive Director Anne Khademian welcomed everyone to the USG. She began by highlighting USG's innovative model, approach to partnerships, and service to students in the region. Over fifteen thousand students have earned their bachelor's or master's degrees from programs at USG, and they have stayed to make the region their home. She invited three guest speakers to highlight existing partnerships between USG and businesses in the region.

Educational Forum: From Challenge to Change: Dean Postmus and Associate Dean Celestine-Donnor from UMB, School of Social Work presented on the evolution of equity and inclusion at the School of Social Work. They overviewed some myths and facts, a case study, challenges ahead, and made recommendations. They also took questions from the board.

Chancellor's Report: Chancellor Perman presented his report. He thanked USG for hosting today's meeting and talked about USG's impact on the state of Maryland and beyond.

Chancellor Perman remarked on the University Excellence across institutions within the university system. Then, he highlighted evidence of USM excellence demonstrated through recent national rankings.

Chancellor Perman discussed the cost and value of higher education. He ended his report by briefly previewing enrollment data information that will be detailed later in the meeting. A written copy of the Chancellor's Report to the Board is available at [[LINK](#)].

1. Report of Councils

Council of University System Faculty: Dr. Haverback presented the report. CUSF had its General Body Meeting on October 28, 2024. During this meeting, CUSF passed a resolution regarding the election and number of CUSF members of the C7 taskforce. The USM Senate chairs meeting was on November 5, 2024.

Council of University System Staff: Dr. Patricio presented the report. The Council of held their October meeting at Frostburg State University and the November Joint Councils meeting at the University of Maryland, Baltimore County. In the October meeting they finalized the CUSS 2025 Academic Year Action Plan. Also attached to their report are the summarized findings from the Shared Governance Awareness Survey, a joint project of CUSS and CUSF.

Council of University System Presidents: President Breaux presented the report. CUSP met twice times since the last Board meeting – On October 9 and November 4. At the October 9th meeting, they continued conversation about the student regent tuition waiver, had an exploratory conversation about a university press, and discussed guaranteed access decentralization. For the November 4th meeting, CUSP did not meet independently, but instead talked with the full Chancellor's Council. The meeting included several topics: Proposed Amendments to USM Policy on Intercollegiate Athletics, the Shared Governance Awareness Report, and Dr. Perman led a conversation on campus climate prior to the election.

University System of Maryland Student Council: Ms. Gambhir presented the USMSC report. At their November general meeting, Chancellor Perman joined the council for a conversation with the student representatives on pre-election thoughts and feelings. They also discussed the USM Student Regent nomination process and the USM BOR Student Excellence Scholarship process. On November 19th, they participated in the Joint Councils Meeting.

2. Consent Agenda

Chair Gooden

The Consent Agenda was presented to the regents by Chair Gooden. She asked if there were any items on the agenda that should be removed for further discussion. There were no requests to remove any item. Chair Gooden moved and Regent Pope seconded the motion to accept the consent agenda. The consent agenda was approved. The items included were:

- a. Committee of the Whole
 - i. Approval of meeting minutes from September 20, 2024, Public and Closed Sessions (action)
- b. Committee on Advancement
 - i. Minutes from the October 22, 2024, meeting (action)
 - ii. USM Quasi-Endowment Grant Requests for 2025 (action)
 - iii. BOR Policy IX-2.00 – Affiliated Philanthropic Support Foundations, Section IV, Recognition of Existing Affiliated Foundations (action)
 - iv. BOR Committee on Advancement Charge (action)
- c. Committee on Finance
 - i. Approval of meeting minutes from September 16, 2024, Public and Closed Sessions (action)
 - ii. Approval of meeting minutes from October 30, 2024, Public and Closed Sessions (action)
 - iii. The University of Baltimore: Facilities Master Plan 2024-2034 (action)
 - iv. University of Maryland Eastern Shore: Increase in Authorization for Athletic Fields Renovation (action)
 - v. Towson University: Fieldhouse Renovation and Addition (action)
 - vi. Towson University: Towson Center Renovation Project (action)
 - vii. UMB Allied Health Air Handler System (action)
 - viii. University of Maryland, College Park: Ground Lease of Property for Second Phase Development of Flex Research and Development Project in Riverdale Park (action)
 - ix. Salisbury University: Real Property Exchange with Wicomico County (action)
 - x. Proposed Amendments to Exempt and Nonexempt Staff Policies on Annual Leave, Personal Leave, Holidays, and Sick and Safe Leave (action)
- d. Committee on Intercollegiate Athletics and Student-Athlete Health and Welfare
 - i. Review of the Committee Charge, Role, and Responsibilities (action)
 - ii. Amendments to BOR V-2.10 University System of Maryland Policy on Intercollegiate Athletics (action)
 - iii. Annual Report on Institution and BOR Policy Changes Impacting Student-Athletes – Jordan McNair Safe and Fair Play Act Report (information)
 - iv. Introduction to Student-Athlete Life – A Presentation by Riley Donahue, Student-Athlete from University of Maryland, Baltimore County (information)
 - v. Mid-Year Athletic Directors' Updates – Rotating – UMBC, SU, UMCP (information)

1. Tiffany D. Tucker, University of Maryland, Baltimore County
 2. Monica Polizzi, Salisbury University
 3. Damon Evans, University of Maryland, College Park
- e. Committee on Governance & Compensation
 - i. Approval of Meeting Minutes from September 16, 2024, and May 22, 2024, Public and Closed Sessions (action)
 - ii. Approval of EPSLS, FIN, and RED Committee Charges (action)
 - iii. Review of Policy Library Matrix (information)
 - f. Committee on Research and Economic Development
 - i. Review of Committee Charge (action)
 - g. Committee on Audit
 - i. Open and Closed Audit Committee Minutes from October 23, 2024, meeting (action)
 - ii. Proposed changes to policy VI-1.5 – Policy on Reporting of Suspected Child Abuse and Neglect (action)

3. Review of Items Removed from Consent Agenda

4. Committee Reports

- a. Committee on Finance
 - i. Proposed Amendments to Policy VIII-2.01—Policy on Tuition (action): Regent Fish introduced the presentation. Associate Vice Chancellor Chad Muntz presented the report. Regent Fish moved to accept the recommendations and Regent Breslin seconded the motion; unanimously approved.
 - ii. Fall 2024 Enrollment Update and FY 2025 Estimated FTE Report (presentation and information): Regent Fish introduced the presentation. Associate Vice Chancellor Chad Muntz presented the report and took questions from the board.
- b. Committee on the Whole
 - i. High Impact Economic Development Activities (HIEDAs) Taskforce (information): Chair Gooden introduced and overviewed the taskforce.

5. Reconvene to Closed Session (action)

Chair Gooden

Reconvene to Closed Session Reconvene to Closed Session. Chair Gooden read the “convene to close” statement citing the topics for the closed session and the relevant statutory authority for closing the meeting under 3-305(b) and 3-103(a)(1)(i). (Moved by Regent Pope, seconded by Regent Lewis; unanimously approved.)

Meeting adjourned at 10:47 a.m.



**USM BOARD OF REGENTS
SPECIAL MEETING OF THE
ADVANCEMENT COMMITTEE
Via video conference call
and teleconference
November 20, 2024**

Minutes of the Public Session

A special meeting of the Board of Regents Committee on Advancement was held via video and teleconference on November 20, 2024, at 11:00 am. In attendance were Regents Hugh Breslin, Geoff Gonella, Linda Gooden, Louis Pope, Steven Sibel, Dhruvak Mirani, and Elena Langrill from the Office of the Attorney General. From the USM office: Chancellor Jay Perman; Chief of Staff Denise Wilkerson; Vice Chancellors Leonard Raley and Michele Masucci; Associate Vice Chancellor Marianne Horrigan; Micaela Cameron, Advancement Communications Manager, and Gina Hossick, Executive Assistant to Leonard Raley. From the University of Maryland, College Park, Jim Harris, Vice President for University Relations and President, University of Maryland College Park Foundation; from the University of Maryland, Baltimore, Greg Bowden, Chief Philanthropy Officer.

Regent Breslin called the meeting to order at 11:03 am.

Convene to closed session

Regent Breslin read the Convene to Close Statement and then moved for recommendation, seconded by Regents Gooden and Pope, and unanimously approved.

The public meeting was adjourned at 11:05 am.

Minutes of the Closed Session

A special meeting of the Board of Regents Committee on Advancement was held via video and teleconference on November 20, 2024, at 11:00 am. In attendance were Regents Hugh Breslin, Geoff Gonella, Linda Gooden, Louis Pope, Steven Sibel, Dhruvak Mirani, and Elena Langrill from the Office of the Attorney General. From the USM office: Chancellor Jay Perman; Chief of Staff Denise Wilkerson; Vice Chancellors Leonard Raley and Michele Masucci; Associate Vice Chancellor Marianne Horrigan; Micaela Cameron, Advancement Communications Manager, and Gina Hossick, Executive Assistant to Leonard Raley. From the University of Maryland, College Park, Jim Harris, Vice President for University Relations and President, University of Maryland College Park Foundation; from the University of Maryland, Baltimore, Greg Bowden, Chief Philanthropy Officer.

Regent Breslin called the meeting to order at 11:06 am.

Naming request from the University of Maryland, College Park and the University of Maryland, Baltimore (action)

The University of Maryland, College Park and the University of Maryland, Baltimore have requested approval to name in perpetuity a center for translational engineering and medicine which represents the first shared research facility between UMCP and UMB. The donor's contribution will help to endow four professorships, create a scholars/fellows program, and provide programmatic support through endowment and current-use funds. The facility will be housed in 4MLK on the UMB campus. This is an exciting collaboration bringing engineers and clinicians together to develop innovations to save lives, reduce suffering, and increase greater healing across Maryland. Chancellor Perman expressed his excitement for the strategic partnerships with UMCP and UMB, another evolution of something the legislature and the USM Regents created, Empowering the State.

Regent Breslin moved for recommendation, seconded by Regents Gooden and Pope, and unanimously approved.

Naming request from the University of Maryland, College Park (action)

The University of Maryland, College Park has requested to name in perpetuity a center for entrepreneurship at the Robert H. Smith School of Business. This naming is in recognition of a donor's significant contributions to the Smith School and he and his wife's transformative commitment. A pioneer in entrepreneurship, the donor (now deceased) was a longtime leader within the Smith School, establishing many of its signature programs. He and his wife have established an irrevocable bequest to provide unrestricted operating support the center.

Regent Breslin moved for recommendation, seconded by Regents Pope and Gonella, and unanimously approved.

Motion to adjourn (action)

Regent Breslin moved for a motion to adjourn, seconded by Regents Gooden and Pope, and unanimously approved.

The meeting adjourned at 11:17 am.



USM Board of Regents
Committee on Education Policy and Student Life and Safety
Minutes from Public Session
December 3, 2024
Zoom

Minutes of the Public Session

The Committee on Education Policy and Student Life and Safety (EPSLS) of the University System of Maryland (USM) Board of Regents (BOR) met virtually (via Zoom) in public session on Tuesday, December 3, 2024. The meeting was convened at 9:31 a.m. Committee members present were: Regents Gourdine (chair), Hasan, Leggett, Mirani, Neuberger, Parker, Smarick, and Wood. Chancellor Perman and Senior Vice Chancellor Alison Wrynn were also present.

The following were also in attendance on Zoom: Dr. Abel, Dr. Acquah, Dr. Adams, Ms. Beckett, Dr. Beise, Dr. Caraco, Dr. Couch, Dr. Diala-Ogamba, Dr. Foust, Dr. Haverback, Dr. Haywood, Senior Vice Chancellor Herbst, Dr. Hurte, Dr. Jennings, Dr. Kersh, Dr. Khademian, Dr. Lamos, Dr. Lee, Dr. Lynch, Dr. Owens, Dr. Parrish-Harris, Dr. Pecukonis, Dr. Reed, Dr. Spencer, Dr. Vincenti, Dr. Wachhaus, Dr. Ward, Ms. Wilkerson, Dr. Williams, and Dr. Wright.

Guests also participated via the public, listen-only line.

Information Item

Humanities Across the USM

A panel highlighting the humanities across the USM presented to the Committee. The panel consisted of:

- Dr. Laurie Couch, Provost and Senior Vice President of Academic Affairs, Salisbury University
- Dr. Kimberly Moffitt, Dean, College of Arts, Humanities, and Social Sciences, University of Maryland, Baltimore County
- Dr. Blessing Diala-Ogamba, Chair and Professor, Department of Humanities, Coppin State University

Dr. Couch discussed Salisbury University's recent work with QA Commons to certify programs at the institution to identify essential employability qualities. The project is helping to link the humanities to skills to help students get jobs. English, Philosophy, and Art have been certified through QA Commons, with more programs on the docket for certification.

Dr. Moffitt spoke about University of Maryland, Baltimore County's Dresher Center for the Humanities, which was established in 2007. The Center focuses not only on the traditional humanities, but interdisciplinary fields, as well. She spoke about the value of humanities for society and all of the great work the Center and UMBC are doing to address issues and needs in society.

Dr. Diala-Ogamba spoke about her experience working directly with students as a faculty member. She discussed some of the programs and projects that students are involved in, noting that they go out into the community to directly apply the skills they are learning in the humanities programs at Coppin State University.

Regent Gourdine thanked the panelists and noted how important it is to take time to hear about programs across the system. Dr. Haywood, Provost at Coppin State University, asked how different disciplines and even institutions can work together to expand programs. Chancellor Perman said that he wants to convene a larger conversation on the humanities.

Action Items

Academic Program Proposals

University of Maryland, Baltimore: Doctor of Social Work

Dr. Roger Ward, Provost and Executive Vice President, Dr. Judy Postmus, Dean and Professor, School of Social Work, and Edward Pecukonis, Professor, presented University of Maryland, Baltimore's proposal to offer a Doctor of Social Work (DSW). The curriculum will focus on advanced skills in treatment methods, supervision, leadership, and teaching pedagogy that are not typically included in the curriculum of Social Work PhD programs. The proposed program will also focus on research and professional writing that draws from the University of Maryland, Baltimore's (UMB)'s many educational resources. Our proposed DSW program will fill a high-demand and growing need in Maryland and build DSW skills along six clinical practice domains, completed within UMB's dynamic interprofessional learning environment over a three-year period. The six essential learning components of the curriculum are 1) Advanced clinical treatment skills such as psychopharmacology, CBT, DBT, family therapy, EMDR, etc., 2) Supervisory skills to guide and train students and social work practitioners in the field, 3) Teaching andragogy for academic classroom instruction, 4) Leadership/administrative skills, 5) Social justice and health equity advocacy, and 6) Applied research training and program evaluation.

Dr. Postmus highlighted the features of the program and how it differs from the DSW being offered at Morgan State University. The UMB DSW is fully in person, has a clinical focus, is interprofessional, includes practicums and labs, and is 60 credits. Drs. Ward and Postmus noted that demand for such a program indicates that the state can support two programs.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends that the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the University of Maryland, Baltimore proposal to offer a Doctor of Social Work.

The motion was moved by Regent Gourdine, seconded by Regent Smarick, and unanimously approved.

Vote Count: Yeas: 7 Nays: 0 Abstentions: 0

University of Maryland, Baltimore: Master of Science in Medical and Health Studies

Dr. Roger Ward, Provost and Executive Vice President, and Dr. Elizabeth Lamos, Associate Professor of Medicine and Assistant Dean, Office of Student Affairs in the School of Medicine, presented University of Maryland, Baltimore’s proposal to offer a Master of Science (M.S.) in Medical and Health Studies. This degree is to be offered as an off-ramp opportunity for medical students using the existing medical school required course work in the pre-clinical phase of the Renaissance Curriculum (62 credits). This MS will allow students who are unable or no longer desire to progress through the traditional 4-year medical school curriculum to transition to a master’s. The MS will only be offered to matriculated medical students who have passed and applied the required pre-clerkship coursework and are in good academic standing. The MS includes coursework in biochemistry, pathophysiology, genetics, therapeutics, professional skills, and clinical knowledge of the provider-patient relationship and psychosocial aspects of patient care.

This program is directly related to UMB’s strategic plan, particularly student success. There are 12 programs similar to this in the United States, with seven of them associated with public medical schools. Regent Mirani asked when a student can decide to pursue this program. Dr. Lamos said that students must have completed three terms, but can decide later than that. Regent Mirani also asked if more students were expected to pursue this option because of a change in career goals or because of academic performance. Dr. Lamos said that they think of it in thirds: one-third will pursue due to a switch in career goals, one-third will pursue due to struggling with the coursework, and one-third will pursue because they realized that the traditional medical school path is not for them.

Regent Wood asked if there is data on the number of students who drop out of medical school. Dr. Lamos said that it is about 1-3% nationally. Regent Gourdine asked if this program would take resources from other programs and Dr. Lamos said no – it’s like flipping a switch for students to switch to this path.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the UMB proposal for an MS in Medical and Health Studies.

The motion was moved by Regent Gourdine, seconded by Regent Neuberger, and unanimously approved.

Vote Count: Yeas: 7 Nays: 0 Abstentions: 0

University of Maryland, Baltimore: Master of Science in AI Drug Development

Dr. Roger Ward, Provost and Executive Vice President, and Dr. Joga Gobburu, Professor and Director of the Center for Translational Medicine, presented University of Maryland, Baltimore's proposal to offer a Master of Science (M.S.) in AI Drug Development. The Artificial Intelligence for Drug Development (AIDD) graduate program uniquely combines interdisciplinary research and interprofessional education by integrating cutting-edge AI technologies with pharmaceutical sciences. Through its curriculum, students gain a deep understanding of AI's role in advancing drug development, preparing them to excel in clinical care and practice by leveraging AI-driven strategies for improved patient outcomes. Dr. Gobburu said that this will certify the state's status as a leader in the biosciences. Dr. Ward again highlighted this program's connection to UMB's strategic plan and student success.

Regent Mirani asked if ethical considerations are woven into the program and Dr. Gobburu said that they will be. Chancellor Perman asked about individuals already in the field who need or want to acquire AI skills. Dr. Gobburu said that other students outside of the degree program will be able to take these courses and Dr. Ward said they are looking more into this. Regent Gourdine highlighted that though this program is focused on AI, there is still a need for human intervention.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends that the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the UMB proposal for an MS in AI for Drug Development.

Vote Count: Yeas: 7 Nays: 0 Abstentions: 0

Bowie State University: Bachelor of Science in Immersive Media, Entertainment, and Gaming

Dr. Guy-Alain Amoussou, Provost, and Dr. Tewodross Williams, Chair, Fine and Performing Arts, presented Bowie State University's proposal to offer a Bachelor of Science (B.S.) in Immersive Media, Entertainment, and Gaming. This degree will provide collaborative and interdisciplinary experiences between the Departments of Fine and Performing Arts and Computer Science in the areas of game design, XR, and virtual production and in the visual and media arts through iterative cycles of design, problem-solving, and analysis. The program is designed to prepare students for employment in technical and creative positions in the game and entertainment industries while emphasizing fundamentals such as entrepreneurship, diversity, technology, and inclusion by merging these areas and unique partnerships between these departments. The program will equip students and graduates with the skills and knowledge to apply computing, modeling, and simulation techniques, and digital media arts (art, animation, interactive, video, sound) and virtual production for entertainment, film, immersive

experiences, research, education, military, sports, and other disciplines. Dr. Williams highlighted the program's affordability compared to other programs at private or for-profit institutions.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends that the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the BSU proposal for a BS in Immersive Media, Entertainment, and Gaming.

The motion was moved by Regent Gourdine, seconded by Regent Parker, and unanimously approved.

Vote Count: Yeas: 7 Nays: 0 Abstentions: 0

Salisbury University: Bachelor of Science in Coastal Engineering

Dr. Laurie Couch, Provost and Senior Vice President for Academic Affairs, and Dr. Michael Scott, Dean, Henson School of Science and Technology, presented Salisbury University's proposal to offer a Bachelor of Science (B.S.) in Coastal Engineering. This degree will address the pressing regional and global challenges posed by climate change, sea-level rise, and coastal erosion. The program will be among the few coastal engineering undergraduate degrees in the U.S., making Salisbury University a regional leader in the field. Students will receive interdisciplinary training, combining engineering principles, environmental sciences, and practical applications like erosion management and sustainable infrastructure design. The curriculum prepares graduates for the Fundamentals of Engineering exam, advancing their employability.

Dr. Scott noted that this is already a track in physics and they are proposing to make it a standalone degree. He noted that SU is working closely with community colleges and that this degree should be highly employable.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends that the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the proposal from Salisbury University for a Bachelor of Science in Coastal Engineering.

The motion was moved by Regent Gourdine, seconded by Regent Neuberger, and unanimously approved.

Vote Count: Yeas: 7 Nays: 0 Abstentions: 0

At this point, Chair Gourdine had to leave the meeting, so Regent Smarick took over chairing the meeting.

University of Baltimore: Bachelor of Science in Artificial Intelligence (AI) for Information Technology (IT) Operations

Dr. Ralph Mueller, Senior Vice President for Academic Affairs and Provost, and Dr. Giovanni Vincenti, Associate Professor and Program Director, Applied Information Technology, presented University of Baltimore’s proposal to offer the Bachelor of Science (B.S.) in Artificial Intelligence for Information Technology Operations. This program aims to equip students with the skills and knowledge necessary to thrive in the rapidly evolving field of artificial intelligence (AI), while also fostering diversity and inclusion in technology education. The BS in Artificial Intelligence for IT Operations intends to prepare students interested in the logistical aspects of integrating AI hardware and software into an organization’s information technology (IT) infrastructure. Students will graduate with skills in various AI and related technologies, including programming languages, machine learning, data analytics, cloud computing, cybersecurity, and ethical considerations in AI. Dr. Vincenti noted that Community College of Baltimore County is very supportive and they are looking at other community colleges.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends that the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the UBalt proposal for a BS in Artificial Intelligence for IT Operations.

The motion was moved by Regent Smarick, seconded by Regent Neuberger, and unanimously approved.

Vote Count: Yeas: 6 Nays: 0 Abstentions: 0

University of Baltimore: Master of Science in User-Centered Cybersecurity

Dr. Mueller and Dr. Greg Walsh, Associate Professor, Bob “PXG” Parsons Profession, and Program Director, Interaction Design and Information Architecture, presented University of Baltimore’s proposal to offer a Master of Science (M.S.) in User-Centered Cybersecurity. This proposed program addresses critical societal needs by advancing the concept of usable security. Traditional cybersecurity solutions often overlook the usability of security tools and systems, particularly for minority and educationally disadvantaged populations, who may not have been considered in the initial design phases of these

technologies. By integrating human-centered design into cybersecurity, this program seeks to create systems that are not only secure but also intuitive and user-friendly.

The proposal has gone through the standard review and approval processes with USM institutions having time to submit objections. Via the USM process, there were no objections. It is noted that, via the process conducted by the Maryland Higher Education Commission, other institutions in the state will have the opportunity to object to the establishment of this program. However, the USM staff believes the institution has done its due diligence regarding a state-wide examination of programs to try to ensure there is no duplication.

The Chancellor recommends that the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the University of Baltimore proposal for an MS in User-Centered Cybersecurity.

The motion was moved by Regent Smarick, seconded by Regent Wood, and unanimously approved.

Vote Count: Yeas: 6 Nays: 0 Abstentions: 0

Information Items

Report on Academic Program Actions Delegated to the Chancellor

Dr. Candace Caraco, Associate Vice Chancellor for Academic Affairs, presented the annual report on academic program actions delegated to the Chancellor. In accordance with Board Resolution III-7.03, this annual report is submitted to the Board of Regents to account for all academic program actions delegated to the Chancellor. Between September 2023 and August 14, 2024, the Chancellor approved 133 actions including:

- suspension or discontinuation of 41 programs (including 8 degree programs, 14 certificates, and 19 areas of concentration within an existing degree);
- 20 title changes;
- 16 modality changes (adding or changing to online);
- 22 Classification of Instructional Programs (CIP) code changes;
- 23 new certificates (11 upper-division and 12 post-baccalaureate);
- 4 new areas of concentration and 5 other major modifications to existing degree programs; and
- 2 new offerings at USM Regional Higher Education Centers.

In addition, the Board of Regents approved 17 new degree programs (8 BS, 2 BA, 1 MA, 5 MS, 1 DVM) and one general education program was revamped. A chart detailing the Chancellor's actions and programs approved by the Board for a total of 150 approvals was included in the materials.

Notification of Awards: Elkins Professorships and USM Scholarships

Annually, the University System of Maryland Office of Academic and Student Affairs facilitates the distribution of scholarships to students and research funds in support of faculty. Kelsey Beckett, Chief of Staff and Director of Operations, shared information about the Elkins Professorship and Dr. Candace Caraco, Associate Vice Chancellor for Academic Affairs, shared information about the USM scholarship programs.

The Elkins Professorship, which began in 1978 at the University of Maryland, College Park, was established to perpetuate the name and contributions of Wilson H. Elkins, a former Rhodes Scholar who led the University of Maryland to new levels of distinction as its president from 1954 to 1978. When the new University System of Maryland began in 1988, Dr. Elkins agreed that the professorship bearing his name should extend to the entire USM family. The Professorship may be used to recruit an outstanding individual to an institution to fill a vacancy or to provide special recognition and support to retain a current outstanding member of the faculty. An internal USM committee evaluates nominations and makes special effort to bestow the award in those areas where the Elkins Professor will have an opportunity to make an important contribution to the teaching, research, and public service mission of their institution and the entire University System of Maryland. Direct involvement with undergraduate and/or graduate students and outreach to other institutions within the System are hallmarks of the Elkins Professors. The Professorship is an opportunity for institutions to build on their strengths and to be of greater service to their students and to society.

Ms. Beckett noted that several years ago, USM began dedicating some of the proceeds to an Elkins Academic Transformation Professorship. And last year, part of the academic transformation funds were for Scholarship of Teaching and Learning fellowships. This year's awardees include:

Traditional Elkins

Award to Towson University to support the work of Dr. Mahnaz Moallem, Professor and Chair of the Department of Learning Technologies, Design, and School Library Media – Using funds to establish Girls Computing and Cybersecurity Clubs in the College of Education that will address persistent racial and gender disparities in computing, artificial intelligence, and cybersecurity. The clubs will serve as a research and professional development hub for faculty in teacher preparation programs. \$66,578

Award to the University of Maryland, Baltimore to support the work of Professor Rabiya Akande, Francis King Carey School of Law - Using funds to explore the relationship between law and colonial power. This project will engage students and personnel within the communities being studied and will result in scholarship, a workshop series, podcasts, and conference presentations. \$40,000 – Year 1 of 2

Award to the University of Maryland, College Park to support the work of Dr. Miao Yu, Professor and Director of the Sensors and Actuators Laboratory within the Department of Mechanical Engineering – Using funds to support a collaborative project (at the interface of engineering, computer science, biology, and aquaculture) investigating novel sensing and robotics tools for the study of marine ecosystem dynamics to promote sustainability. The collaboration includes the University of Maryland Center for Environmental Science and the University of Maryland Eastern Shore and the research team will include graduate, undergraduate, and high school students. \$30,000 – Year 2 of 2

Academic Transformation

Award to Bowie State University to support the work of Dr. Rosemary Shumba, Chair and Professor of Computer Science - Using funds to conduct a feasibility study to establish an Experiential Learning Center (ELC) within the Department of Computer Science to enhance access, affordability, and quality for underrepresented students in computing fields. \$30,000

Scholarship of Teaching and Learning Fellows

The 2024-25 Elkins SoTL Fellows are:

Debra McLaughlin, Program Director, Natural Sciences, University of Maryland Global Campus, with co-principal investigator Meenu Vikram, part-time faculty at University of Maryland Global Campus and full-time faculty at Notre Dame University of Maryland.

David Leasure, First-Term Experience, University of Maryland Global Campus

Haitham Alkhateeb, Professor, Mathematics, University of Baltimore

Carlos Faerron Guzmán, Associate Professor of Global Health, with co-principal investigator Amy Ramirez, Executive Director, Global Learning, University of Maryland, Baltimore

Nicole Hollywood, Professor, Business, Management and Accounting, with co-principal investigator Katherine Quinn, Associate Professor, Hospitality and Tourism Management, University of Maryland Eastern Shore

University System of Maryland Scholarship Programs

AY 2024 -2025

The University System of Maryland administers more than two dozen endowed scholarship funds that help in-state students from across the System afford an undergraduate education. Some are small, providing about less than \$1,000 once to one student. Others are more significant, such as Regents Scholarships, which can provide a scholarship to cover tuition and fees, room and board, and a set stipend for educational expenses for one or two students. All the scholarships have been provided by the generosity of donors who want to assist students, often in memory of someone who was dedicated to education. While some scholarships look solely at academic merit, others have additional criteria relating to students' demonstration of financial need or another criterion such as academic discipline.

A chart showing the amounts of the scholarships is included below:

Type of Scholarship	New Awards	Continuing Awards	Average Award Amount	Aggregate Amount (estimated)	Notes
Regents – full	3 Transfer Students from MD community colleges	5 Students originally awarded as MDCC transfer students	\$26,441	\$211,530	Amounts have been calculated for the full Regents Scholarship numbers to include the remission of tuition & fees provided by the USM institutions.

	Pending first-year awards	7 Students originally awarded as first-year students	\$35,717	\$250,021	Amounts have been calculated for the Regents Scholarship numbers to include the remission of tuition & fees provided by the USM institutions.
Partial awards	4 Kelly Access Opportunity Grants (transfer)	3 Kelly Access Opportunity Grants (transfer)	\$4000	\$28,000	
	3 various (Kuhn et al.) N/A		\$1,833	\$5500	
	Fatzinger transfer (6)		\$2,000	\$12,000	One-time awards;
Wild Near-Completer Awards	Approx. 40	N/A	\$11,000 per institution; per student amount usually about \$3,000	\$121,000	One-time awards made to students selected by the institution to drive completion
Total	56	15		\$628,051	

Universities at Shady Grove Update: Partnership Council and Super Studio

Anne Khademian, Executive Director of the Universities at Shady Grove, shared an update on the USG Partnership Council and plans for a super studio. The Partnership Council is working to bring data-informed workforce recommendations to USG academic programs. The super studio is aimed at interdisciplinary problem-solving.

Motion to Adjourn

Regent Smarick thanked everyone for a productive meeting. He called for a motion to adjourn. The motion was moved by Regent Wood, seconded by Regent Leggett, and unanimously approved. Regent Smarick adjourned the meeting at 11:26 a.m.

Respectfully,

Regent Andy Smarick
Vice Chair

TOPIC: University of Maryland, Baltimore Proposal for a Doctor of Social Work

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: The University of Maryland School of Social Work proposes a new Doctor of Social Work (DSW) degree. The curriculum will focus on advanced skills in treatment methods, supervision, leadership, and teaching pedagogy that are not typically included in the curriculum of Social Work PhD programs. The proposed program will also focus on research and professional writing that draws from the University of Maryland, Baltimore's (UMB)'s many educational resources. Our proposed DSW program will fill a high-demand and growing need in Maryland and build DSW skills along six clinical practice domains, completed within UMB's dynamic interprofessional learning environment over a three-year period. The six essential learning components of the curriculum are 1) Advanced clinical treatment skills such as psychopharmacology, CBT, DBT, family therapy, EMDR, etc., 2) Supervisory skills to guide and train students and social work practitioners in the field, 3) Teaching andragogy for academic classroom instruction, 4) Leadership/administrative skills, 5) Social justice and health equity advocacy, and 6) Applied research training and program evaluation.

The Bureau of Labor Statistics (2022) suggests that the demand for professional social workers will grow between 9-11% over the next five years with behavioral health having the highest growth rate. Thus, there is an ongoing and growing need for experienced and well-trained social workers. This rate of growth for social workers is beyond the national average of 5% seen for most other occupations. Thus, the demand for highly trained professional social workers will continue to remain well above average in the near future.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the University of Maryland, Baltimore proposal to offer the Doctor of Social Work.

COMMITTEE RECOMMENDATION:

DATE: December 3, 2024

BOARD ACTION:

DATE:

SUBMITTED BY: Alison M. Wrynn 301-445-1992

awrynn@usmd.edu



Dr. Roger J. Ward, EdD, JD, MSL, MPA
Provost and Executive Vice President

Office of the Provost
220 Arch Street, Room 03-118
Baltimore, MD 21201
410 706 2477

rward@umaryland.edu

November 15, 2024

Jay A. Perman, MD
Chancellor
University System of Maryland
3300 Metzert Road
Adelphi, MD 20783

Dear Chancellor Perman:

On behalf of the University of Maryland, Baltimore (UMB) please find attached our proposal to establish a new academic program, a **Doctor of Social Work (DSW)** within the University of Maryland School of Social Work.

The unprecedented growth of the Social Work profession now demands additional doctoral prepared teachers and supervisors to educate the next generation of clinical social workers. Our proposed DSW program will help fill this need and is consistent with the values and strategic direction of both the UMB campus and the goals of the Maryland Plan for Postsecondary Education. The DSW program promises to be a beacon of innovation, promoting entrepreneurship and interprofessional collaboration that will nurture our communities, evolve our methods of care, and promote the overall wellbeing of our citizens. Doctorate level training will enhance the professionalism and knowledge of social work practitioners, assuring accountability in their clinical work while promoting social justice and health equity for those they serve.

Should you require additional information, please contact Meghan Bruce Bojo, Executive Director of Academic Administration, at mbojo@umaryland.edu or 410-706-2055.

Regards,

A handwritten signature in black ink, appearing to read "Roger J. Ward".

Dr. Roger J. Ward, JD, MSL, MPA
Provost and Executive Vice President

cc: Dr. Judy Postmus, Dean & Professor, University of Maryland School of Social Work
Dr. Edward Pecukonis, Professor, University of Maryland School of Social Work
Meghan Bruce Bojo, Executive Director of Academic Administration,

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- Cooperative Degree Program
- Within Existing Resources, or
- Requiring New Resources

University of Maryland, Baltimore

Institution Submitting Proposal

Doctor of Social Work

Title of Proposed Program

Doctor of Social Work (DSW)

Award to be Offered

Fall 2025

Projected Implementation Date

51.1503

Proposed HEGIS Code

Proposed CIP Code

**University of Maryland Baltimore School
of Social Work**

Department in which program will be located

Meghan Bruce Bojo

Department Contact

410-706-2055

Contact Phone Number

mbojo@umaryland.edu

Contact E-Mail Address



Signature of President or Designee

November 15, 2024

Date

**A PROPOSAL FOR A NEW ACADEMIC PROGRAM at THE UNIVERSITY OF MARYLAND, BALTIMORE
SCHOOL OF SOCIAL WORK: DOCTOR OF SOCIAL WORK (DSW)**

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A. Centrality to Institutional Mission and Planning Priorities:

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The University of Maryland, Baltimore School of Social Work proposes a new Doctor of Social Work (DSW) degree for individuals possessing a master's in social work (MSW) with at least two years of clinical practice experience. The DSW is an advanced practice doctorate that leverages UMB's nationally recognized strength in interprofessional education (IPE) and promotes skills in clinical treatment methods, supervision of social work practitioners, leadership, and classroom teaching. While UMB offers a top 25-ranked Ph.D. program, the DSW differs from the Ph.D. in Social Work because it emphasizes the day-to-day practice of clinical social work in the community rather than research and knowledge building (Anastasi, 2012). The two types of programs are fundamentally different, but each is important to UMB implementing its mission and serving the State of Maryland.

The University of Maryland, Baltimore (UMB) is Maryland's public health, law, and human services university, dedicated to excellence in education, research, clinical care, and public service. UMB enrolls nearly 6,700 students in six nationally ranked professional schools — dentistry, law, medicine, nursing, pharmacy, and social work — and an interdisciplinary School of Graduate Studies. The University offers 97 doctoral, master's, baccalaureate, and certificate programs, and confers most of the professional practice doctoral degrees awarded in Maryland. UMB is a thriving academic health center combining cutting-edge biomedical research and exceptional patient care.

Founded in 1961, the School of Social Work was the first in Maryland to offer the MSW, and it awards over 350 MSW degrees a year. It is one of the ten largest schools of social work in the nation, and it is ranked 24th in the nation by *US News & World Report*. The school has been recognized for its work in Baltimore City. Over the years, the school has launched several innovative programs, including **Family Connections Baltimore**, which works alongside 100 families in Baltimore each year to advocate for their needs; **Positive School Center**, designed to foster positive and restorative environments in schools; **Promise Heights**, which supports the well-being of families in the Upton/Druid Heights areas of West Baltimore; and **B'more for Healthy Babies**, which focuses on educating families and caregivers through community outreach, training, and media campaigns, significantly reducing infant mortality rates.

Developing a Doctor of Social Work degree program is in alignment with UMB's mission to improve the human condition and serve the public good of Maryland and society at-large through education, research, clinical care, and service. The need for an advanced social work doctorate program (DSW) is driven by complex and evolving needs within the Social Work profession and community needs within the state of Maryland. Our program focuses on six essential clinical practice domains including:

1. Advanced clinical treatment skills (such as psychopharmacology, Cognitive Behavioral therapy, Dialectical Behavior Therapy, family therapy, Eye Movement Desensitization and Reprocessing (EMDR), and other cutting-edge, evidenced-based practice skill models)
2. Supervisory skills to guide and train students and social work practitioners in the field

3. Teaching pedagogy for academic classroom instruction
4. Leadership/administrative skills to support agency administrative roles
5. Social justice and health equity advocacy
6. Applied clinical research training and program evaluation

Notably, UMB's proposed DSW program also leverages UMB's strengths as a leader in interprofessional education (IPE) and behavioral health. UMB is a national leader in promoting IPE and team-based care in the delivery of behavioral health services to the citizens of Maryland (Pecukonis, 2008; 2013; 2014; 2019). Our campus includes the Schools of Social Work, Medicine, Nursing, Pharmacy, Dentistry, Law, and an interdisciplinary School of Graduate Studies that has cultivated a rich and diverse academic community supporting IPE efforts. UMB's Center for Interprofessional Education brings together students from each of the schools to learn together and about each other's profession and how to work together in the clinical setting. DSW students will have many opportunities to learn with and about other health care providers on campus which is consistent with national trends in behavioral health/health education. This IPE experience will prepare them to be clinical leaders and ensure that more Maryland hospitals and clinical settings can benefit from innovative thinking and collaboration between healthcare providers which will improve patient outcomes.

In addition to IPE, our DSW program will support UMB's commitment to serving the citizens of Maryland behavioral health needs. More than half of the U.S. population (approximately 169 million people), live in a Mental Health Professional Shortage Area (National Center for Health Workforce Analysis, 2023). In Maryland, 1.17 million residents, representing 28.76% of the state's population, face similar shortages (Health Resources and Services Administration, 2022). Licensed clinical social workers provide the majority of behavioral health services nationally and are in high demand within the professional workforce (Pecukonis, Cornelius, & Parrish, 2003). Meeting this pressing need requires a dual approach: expanding the pool of social work graduates while also ensuring an adequate number of social work educators.

UMB's proposed DSW program is designed as a comprehensive, three-year academic offering. The program requires the completion of 60 credits and is structured to enroll and accommodate working professionals. Courses are delivered in person, with classes held one weekend per month, from Friday through Sunday. This schedule allows students to maintain their professional and personal commitments while pursuing advanced clinical training. The design of our proposed DSW program pairs flexibility with a rigorous academic program that will benefit both students and citizens of the state of Maryland.

2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

UMB's mission is to improve the human condition and serve the public good of Maryland and society at-large through education, research, clinical care, and service. UMB delivers \$40 million each year in uncompensated care to the citizens of Maryland. Beyond a strong academic program, the School of Social Work is also deeply committed to community service. The Center for Restorative Change, Promise Heights, Family Connections, and the Institute for Innovation and

Implementation are all very active in helping with the social work needs in Baltimore and beyond. The SSW provides 500,000 hours of social work services a year within the state of Maryland and surrounding communities. The UMB campus, as a whole, provides 2 million hours of service to the community.

Our proposed DSW program is consistent with the mission and the values of health equity and social justice espoused by our university. Within our state, UMB remains a preeminent research institution, with a mission of educating health care professionals, conducting applied research, and providing excellent clinical care to the citizens of Maryland. Our proposed DSW program will improve the human condition, promote entrepreneurship and interprofessional collaboration that will nurture our communities, evolve our methods of care, and promote the overall wellbeing of our citizens. Doctorate-level training will enhance the professionalism and knowledge of social work practitioners, assuring accountability in their clinical work while promoting social justice and health equity for those they serve. The skills addressed in a DSW are different from those in a Ph.D. program and are tailored to improve clinical practice rather than be directed at research.

The proposed DSW program aligns with the values and strategic direction of UMB. It has strong support from key leaders, including the Dean of the School of Social Work, the Provost, and the President of UMB, highlighting its importance as an institutional priority. Additionally, the DSW program embodies UMB's mission to improve the human condition and serve the public good through education, research, clinical care, and service. By advancing social work education and practice, it aims to address critical social issues and enhance community well-being, fulfilling UMB's overarching goals.

3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation.

The School of Social Work (SSW) can offer the proposed degree program with existing resources and will ensure continued funding to support it. UMB leadership also shows a strong commitment to establish a DSW program and has allocated startup funds of \$596,495 for Year 1 (FY26) and \$652,854 for Year 2 (FY27). These funds will assure the start-up and successful implementation of the proposed DSW program and will cover essential program components including faculty salary, program planning, curriculum development, marketing of the degree, student recruitment, and essential administrative tasks and personnel to get the program up and running.

We plan to enroll approximately 18 DSW students each year of our three-year program. This will ultimately create three cohorts of students for a total of 54 students. We anticipate being self-sufficient by year three (FY28). As described below, we anticipate strong enrollment from alumni of our MSW program.

4. Provide a description of the institution's a commitment to:

a) Ongoing financial, administrative, and technical support of the proposed program:

Financial support: The UMB campus has a history of supporting and sustaining new degree programs. As noted previously, the administration is providing over \$1.2 million in startup funds for the first two years of program development and implementation. This is a significant financial

investment and illustrates an understanding of the importance of the DSW to the Social Work profession as well as a commitment to appropriately resourcing its success.

Administrative Supports: The Dean and faculty of the SSW support the goals and objectives of the DSW program and have been active in creating the program's curriculum. The SSW has existed since 1961 and has the longest running MSW program in the state. During our 55-year history, the SSW has developed sophisticated administrative structures that support competency-based education and student success. The majority of administrative support will be provided via the departments of academic affairs, admissions, registration, and the Dean's office in the SSW. The campus bursar will assist with translating and establishing credit hours needed to graduate, tuition cost per credit hour and provide resources for financial aid. Likewise, the university registrar is responsible for assuring that students meet all requirements for graduation and ultimately certifies each student's degree status.

Within the SSW, there are formal administrative structures that provide guidance and assist in recruitment and admission of students, hiring of personnel, arranging faculty teaching assignments, developing curriculum, program planning, marketing, budget management, fundraising and provision of student support and DEI (Diversity, Equity and Inclusion) services, etc. The SSW will provide all necessary student support services and the faculty, and personnel necessary for program operation. The SSW will also provide the physical space and technology to accommodate in-person and online instruction.

Technical support: There is ample technical support for the proposed DSW. The SSW has a highly trained and competent clinical teaching faculty that will serve as the primary architects of the DSW curriculum. The Informatics Office is a core source of technical support for students and faculty at the SSW, and consists of the Computer Center, the Computer Training Classroom, computer services, IT services, and the Media Center. It further maintains the audio, video, and computer technology that supports the school's learning and research environments.

In addition to the Informatics Office, the IDEA Team is another source of technical support at the SSW. The IDEA team provides services and support in instructional design, e-Learning, assessments, and online learning technologies for faculty, staff, and students. These departments also provide 24/7 access to web-based help pages, tutorials, and systematic documentation for students. Each of these support services can be accessed via email and phone and can troubleshoot with screen sharing as needed. In addition, our DSW trainees will benefit from technical support at the campus level such as the universal helpdesk (for login issues, email, zoom, etc.).

b) Continuation of the program for a period sufficient to allow enrolled students to complete the program:

If for some unforeseeable reason UMB discontinues the DSW curriculum, UMB is committed to a teach-out plan for all enrolled students so they may complete the program and earn their degree.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan:

1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:

According to Maryland law (§10–204), public institutions of higher education shall: (1) “Provide postsecondary education to students; (2) Transmit culture and extend knowledge through general higher education; (3) Teach and train students for careers and advanced study; (4) Protect academic freedom; (5) Promote civic responsibility; (6) Enhance economic development of the State through research, training, and extension services to business and industry; (7) Provide public services for citizens of the State; and (8) Assure that women and minorities are equitably represented among faculty, staff, and administration.

Our proposed DSW program is consistent with these goals. For example, the proposed program will increase participation in postsecondary education by expanding the availability of a flexible, unique, and innovative curriculum design. Since we will offer our DSW program within an in-person classroom model held on weekends (Friday through Sunday once per month), working professionals will be able to pursue a clinical doctorate while remaining employed. The DSW program will prepare learners to advance their careers and work in supervisory and teaching positions supporting social work education. Attaining a DSW will also support a globally competitive, entrepreneurial workforce, since many of our graduates will develop innovative psychotherapy practice and/or nonprofit programs within Maryland communities and beyond.

According to the 2018 statewide review of behavioral health workforce report “federal projections indicate a 31% deficit of needed social workers...workforce shortages limit capacity in rural areas of the state, while providers in high-density areas lack the resources to retain staff” (Maryland 2019). The Maryland Occupational Projections for 2022-2032 show an increase of 13.84 percent for social workers in postsecondary work. Unfortunately, the growth of BSW and MSW programs has not been accompanied by a similar growth in doctoral-trained clinical social work instructors and supervisors. Implementing a DSW program will directly address this gap by supporting the development of more doctoral-trained clinical social work instructors, ensuring a stronger pipeline of qualified educators to meet the increasing demand.

In addition, the COVID-19 pandemic has taken a toll on the general population’s mental health and has precipitated a dramatic increase in the demand for skilled mental health providers. The aftereffects of the COVID-19 pandemic will reverberate through our communities for years to come requiring more social work services. Similarly, social work programs across the country are now in need of highly skilled teachers and supervisors. Our proposed DSW will respond to this growing demand by training doctoral prepared Social Work practitioners and supervisors with advanced skills and expertise in behavioral health.

In response to these needs, DSW programs are growing in number nationally. Our proposed three-year, in-person, 60-credit DSW program will help to meet this growing need in Maryland by training advanced practitioners. There are many social work practitioners licensed within the State that show an interest in pursuing this degree and meet our admission requirements. For example, the Maryland Board of Social Work Examiners currently reports 11,241 LCSW-C social workers licensed in Maryland with an additional 5,579 LMSW’s licensed within Maryland, who within 1-2 years will be eligible for the LCSW-C and thus meet an essential admission requirement for the DSW.

In addition, UMB's SSW alumni association has over 11,000 members, most at the LCSW-C level. Our MSW program graduates over 350 MSW students each year, which makes us one of the largest schools of social work in the nation. Our graduates are active in continuing education and postgraduate education experiences at the School of Social Work. We anticipate that many of them will apply for the DSW.

While Maryland's demand for highly trained social workers continues to grow, the state currently offers only one DSW program. **This limited access may compel students to explore out-of-state options, which can create barriers to both personal advancement and Maryland's ability to retain top-tier professionals.** To ensure Maryland's workforce meets the increasing demands of advanced social work practice and leadership, it is crucial that we expand opportunities for in-state doctoral education.

2. Provide evidence that the perceived need is consistent with the Maryland State Plan for Education:

The Maryland Plan for Postsecondary Education establishes three primary goals: 1) Student Access: Ensure equitable access for affordable and high-quality education for Marylanders; 2) Student Success: Develop and implement practices and policies that assure student success; and 3) Innovation: Foster innovation in all aspects of higher education to improve access and student success. The Maryland State Plan for Education also supports the expansion of education programs that train mental health professionals, due to the added demands related to the COVID-19 Pandemic.

The University of Maryland, Baltimore (UMB) is committed to Priorities 5, 6, and 7 under the theme of Student Success. First, aligning with Priority 5, UMB is committed to high-quality postsecondary education in Maryland. As the largest School of Social Work in the state, UMB's proposed DSW program has an innovative curriculum fully aligned with its current commitment to high-quality education and student success. The curriculum in the DSW program will teach innovative methods of psychotherapy, supervision, instruction, and administrative leadership within a framework of social justice, equity, diversity, and inclusion.

In alignment with the theme of Student Success and Priority 6, the proposed DSW program at UMB will support timely completion of an academic program by offering a curriculum designed to accommodate working professionals. By allowing DSW students to remain in their jobs while pursuing advanced education, the program ensures that their career trajectory, income stream, and service delivery are uninterrupted. This innovative approach not only makes advanced skill development accessible to social workers who might otherwise be unable to pursue a doctorate, but it also positions UMB as the only provider of an in-person DSW program in Maryland. Additionally, weekend course offerings that align with the students' work schedules further support access and success, reinforcing the program's commitment to lifelong learning and professional growth.

In support of the theme of Innovation and Priority 8, obtaining a DSW enhances the role of postsecondary education as a platform for ongoing lifelong learning by providing advanced

education that is directly applicable to a social worker's current practice and aligns with workforce needs in the state. The DSW program allows professionals to deepen their expertise, learn innovative methods, and develop leadership and administrative skills without interrupting their careers. This continuous engagement with advanced education enables social workers to evolve with the profession, stay current with emerging trends, and maintain a commitment to personal and professional growth throughout their careers.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:

1. Describe potential industry or industries, employment opportunities, and expected level of entry for graduates of the proposed program.

Experienced clinical social workers are in high demand from both private and public institutions both broadly and within areas of focus such as behavioral health, healthcare, leadership, and education. The Maryland Occupational Projections for 2022-2032 show an increase of 13.84 percent for social workers in postsecondary work and the Bureau of Labor Statistics (2022) suggests that the demand for professional social workers will grow between 9-11% over the next five years with behavioral health (mental health) having the highest growth rate. There is an ongoing and growing need for experienced and well-trained social workers. The rate of growth for social workers is beyond the national average of 5% seen for most other occupations. Further, the demand for highly trained professional social workers will continue to remain above average in the near future as employment of social workers in healthcare is projected to grow 17% by 2028 (BLS, 2020).

DSW graduates are often employed in supervisory positions (22.9% of graduates) and clinical practice settings (17.7%). Additionally, employment (both part-time and full-time) of postsecondary social work instructors is projected to grow 11% from 2018 to 2028. Salaries for DSW graduates will remain highly competitive and higher than what can be obtained with an MSW. The National Association of Social Work estimates that DSW salaries are up to \$25,000 more than MSW (NASW, 2015). Salary for DSW graduates ranges from \$75,000 to \$127,760 (average = \$81,000) nationally, in Maryland the average DSW salary is \$81,000. This is compared to average salaries for MSW graduates of \$68,000 (BLS, 2022).

Focusing in on subspecialties, according to Bureau of Labor Statistics (2020), the mean salaries of exemplary employment positions are: Medical and health services managers (\$115,160); Social advocacy organization executives (\$114,040); and Government agency managers (\$103,000). Further, the median salary for social work instructors in 2019 was \$72,070 (BLS, 2020).

2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

Like other allied health fields, the movement towards the doctorate degree has been a significant theme within social work literature (Apgar, 2020; Edwards et al., 2015). The DSW aligns with workforce needs, and it is noteworthy that other health professions have already developed clinical doctorates to meet similar practice and training needs. For example, advanced clinical degrees at the doctoral level are seen in nursing (CRNP), occupational therapy (OT), pharmacy (PharmD),

psychology (PsyD), physical therapy (DPT), physician assistant (DMSc) and nutrition (DSN). For each of these professions, the need for skilled clinicians and educators is addressed by creating practice-focused doctorates. The DSW will fill this need for the profession of Social Work. In turn, these highly trained social work professionals will provide improved and comprehensive behavioral health care services to Marylanders and excellent educational experiences for social work trainees throughout the State.

This momentum and pathway to the DSW characterizes the future of professional social work in this country (Pecukonis, 2003). For example, the Council on Social Work Education (CSWE, 2024) is now finalizing national accreditation standards for DSW programs. In addition, CSWE has recently qualified their long-standing position of defining the MSW as the profession's terminal degree. This clearly makes room for the proliferation of the DSW degree as a new and potential terminal degree for the social work profession (CSWE, 2023). Social work practitioners themselves also fuel the need for doctoral prepared clinical social workers.

In the 2018 workforce report, the Maryland Public Behavioral Health System (BPHS) highlighted a significant shortage of “providers trained in co-occurring disorders.... and culturally and linguistically competent providers” (Maryland, 2019). Maryland House Bill 615, Chapter 392, established a workgroup tasked with identifying and addressing the shortage of behavioral health professionals from underrepresented communities in Maryland. One of the key strategies to address this shortage is to encourage students from underrepresented groups to pursue higher education in behavioral health fields.

Demographic data suggests that Doctor of Social Work (DSW) programs are particularly effective in attracting older, more experienced social workers and underrepresented minority applicants (CSWE, 2023). Nationally, nearly 75% of DSW applicants are 35 years of age or older. Additionally, a significantly higher percentage of DSW students are African American (35.8%) compared to Ph.D. applicants in Social Work programs (21%) (CSWE, 2023). This indicates that DSW programs can be more appealing to African American/Black students, who are currently underrepresented in doctorate-level leadership positions within social work. Increasing opportunities for DSW education will play a crucial role in addressing this demographic gap. By having two DSW programs in Maryland we can ensure that the leadership in the social work profession better reflects the identities and experiences of the communities served. This alignment is essential for fostering a more inclusive and effective behavioral health workforce, ultimately leading to improved outcomes for diverse populations.

The demand for *doctoral prepared social workers* is projected to increase 15% by the year 2030 (US Bureau of Labor Statistics, 2022). Edwards (2010) reviewed the findings of the Task Force on the DSW Degree and concluded that “*The profession of social work will be well served to have an abundance of doctoral level practitioners to train the next generation of social work practitioners and provide expert services.*” A recent national survey sampling all social work graduates in 2018 (Council on Social Work Accreditation, 2019), suggests that *over 40% of these graduates intend to enroll in a DSW program* (CSWE, 2019).

This workforce gap highlights the urgent need for enhanced training and educational opportunities for social workers. Currently, Maryland has 11 fully accredited social work programs. However,

only one Doctor of Social Work (DSW) program exists, which is located at Morgan State University (MSU) and began in the fall of 2023. Of the 11 institutions, eight offer the Bachelor of Social Work (BSW) degree exclusively, serving as feeder schools for Master of Social Work (MSW), Ph.D., and now DSW programs.

Strategically expanding the number of DSW programs will help address the shortage of doctoral-prepared social workers, providing a larger pool of professionals equipped to tackle complex social issues like behavioral health disparities and culturally responsive care. An additional program will create opportunities for underrepresented groups to advance in the field, diversify leadership, and improve care for marginalized populations. Additionally, increasing DSW offerings will improve access to education by offering an additional modality, allowing more practitioners to pursue advanced education while serving their communities. These programs will also foster innovation, enabling institutions to create specialized curricula that address emerging social challenges.

3. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.

There is ample and reliable data on the need for a DSW program including a market study with the EAB and regional employment projections via the Bureau of Labor Statistics. To ensure program viability and prior to developing this proposal, UMB collaborated with EAB to conduct a market analysis assessing the need to pursue a DSW by social workers in the State of Maryland. The full market analysis is contained in *Appendix A*. Findings suggest strong employer demand for DSW graduates within the region and recommend the development of a DSW program at UMB. The EAB found regional demand for doctoral-level social work professionals grew an average of 4.51% between December 2018 and November 2021, outpacing the average growth for all doctoral-level professionals (i.e., 1.59%).

The market analysis also evaluated the top skills requested of doctoral level social workers in 980 job postings listed between December 2020 – November 2021. Findings from the analysis identify the need for clinicians with “expertise in the provision of behavioral health services” as the most requested job skill (46.33%). Interestingly, the top employer looking for doctoral prepared counselors was “Thriveworks” which is primarily an online psychotherapy program. This is consistent with the growing telehealth networks providing services. Telehealth skills (24.29%) are also highly desirable by potential employers. This analysis suggests a growing labor market and demand for social work professionals to fill those slots.

Finally, the market analysis identified “healthcare and social assistance agencies” as the top industries looking for doctoral-trained social workers (55.51%). These favorable trends add further validity to a growing demand and labor market for doctoral prepared social workers.

In addition to the EAB, Bureau of Labor Statistics (BLS) regional employment projections through 2031 suggest that Social Work will grow faster than the average of other professions. BLS suggests that the aftermath of the COVID-19 pandemic will continue to increase the demand for mental health services throughout the United States. Additionally, the BLS anticipates that behavioral health services will be in high demand in the future due to the aging population, the trends towards

community based primary care, and the use of tele-behavioral health. Our proposed DSW program can assist in supplying personnel to meet this employment need.

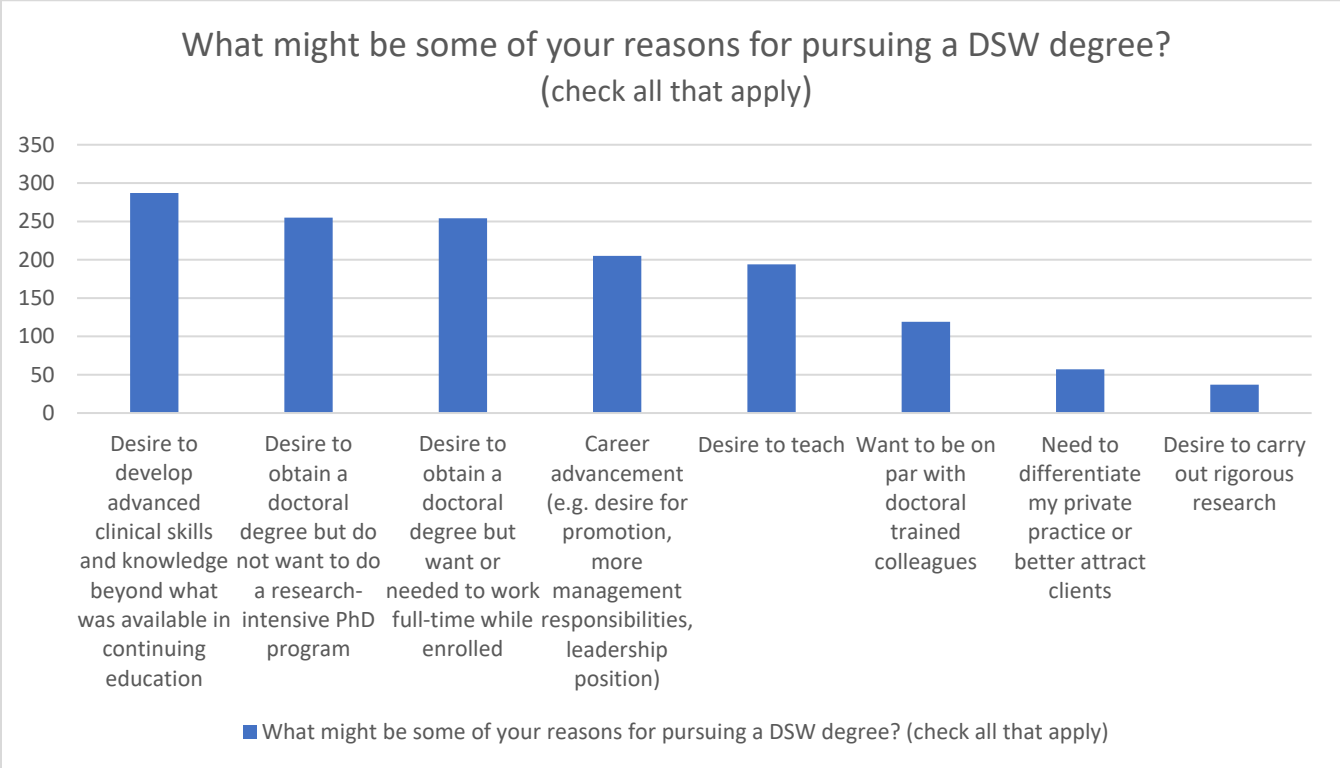
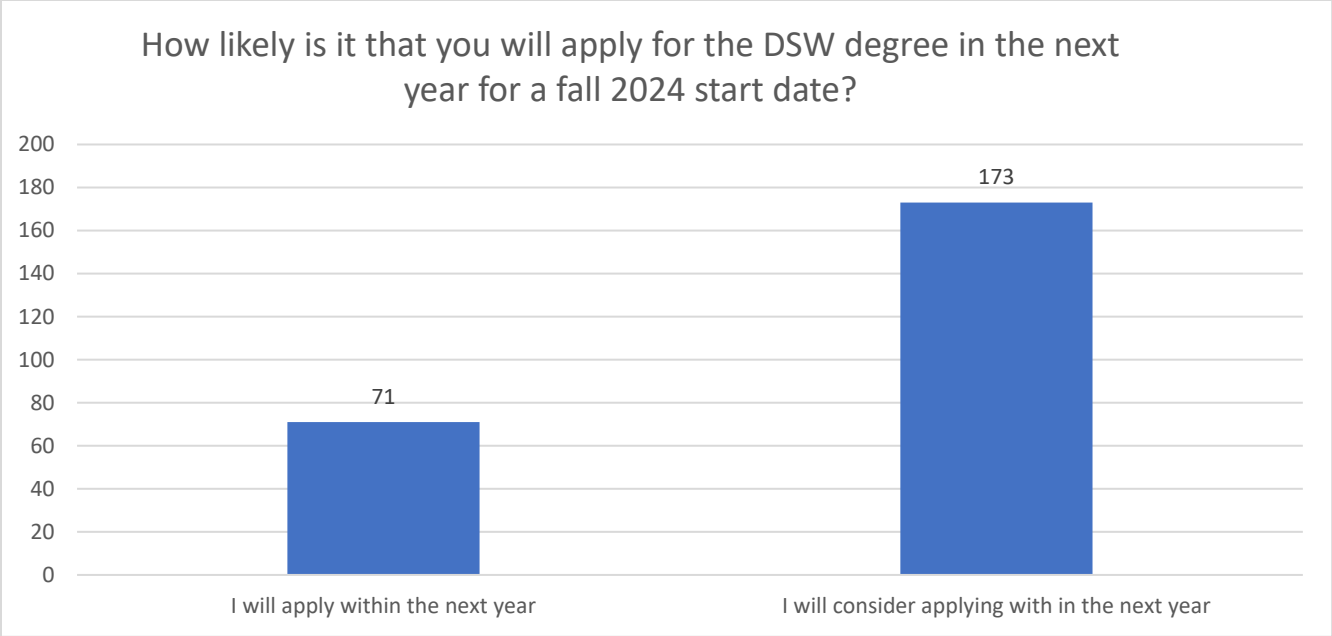
4. Provide data showing the current and projected supply of prospective graduates.

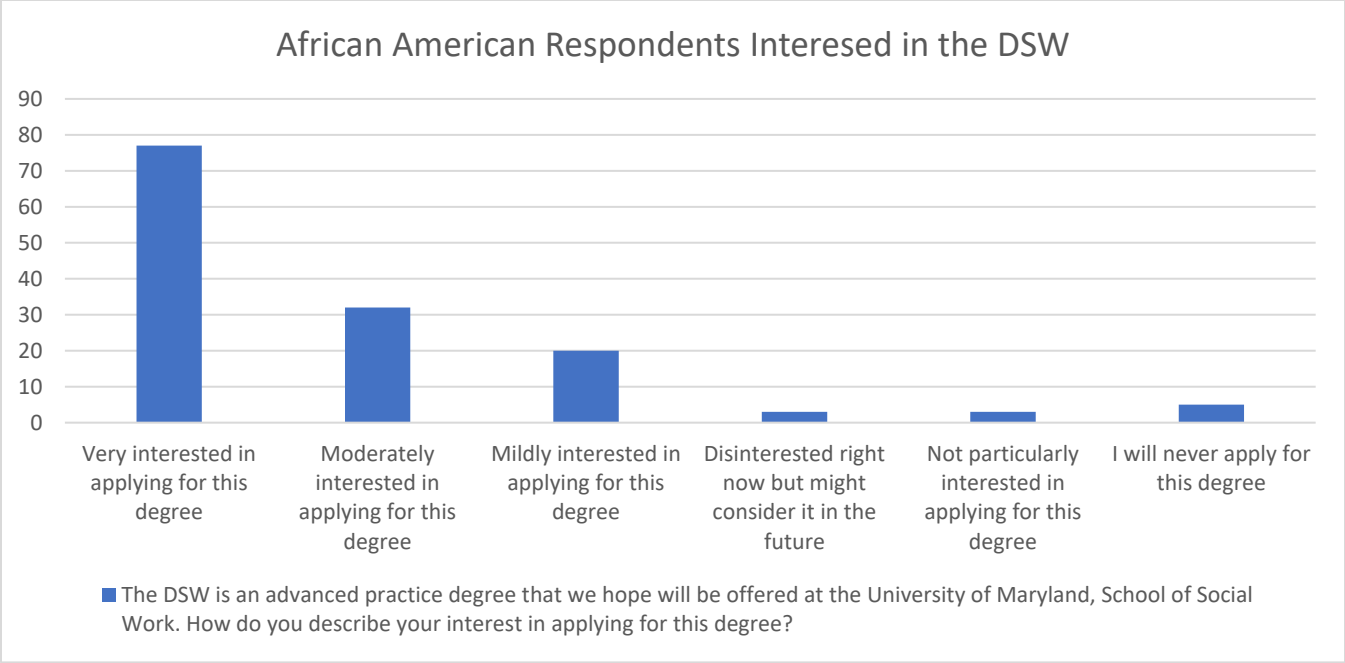
In addition to an EAB market study and reviewing BLS data, we assessed the interest and need for a DSW in Maryland through a detailed survey of the UMB SSW alumni. This survey can be seen in Appendix B. Following three successive emails, we received 620 surveys that appear representative of our alumni. Approximately 19.5% of surveys returned contained missing data or were duplicative and not used in the final analysis.

Over 66% of respondents said they were interested in a practice based DSW, and not a research-based PhD. Approximately, 67 % wanted to complete their studies while maintaining full time employment. Findings note that over 72% of respondents have either a moderate or a significant interest in pursuing a DSW. Over 42% described themselves as being extremely interested in the DSW degree. Approximately 73 respondents or 15% of the sample noted that they would “definitely apply” for the next academic year. Another 169 alumni or 34% of the sample noted that they would “definitely consider applying” within the next 12 months. This finding suggests an ample supply of potential applicants, given that the program will only admit 18 people each year. Approximately 42% of African American respondents noted that they were very interested in applying for the DSW. In general, these findings suggest a strong interest from SSW alumni in pursuing a doctorate in Social Work.

Demographic data notes that 89% of respondents were female with 37.2% describing themselves as African American. Hispanic/Latin and African American respondents accounted for over 45% of the entire sample. The age of alumni ranged from 22 to 86. The average age of respondents was 44 years (standard deviation = 12.7 years). Notably, the average number of years since graduation from an MSW program was 15.4 years, with most respondents working in behavioral/mental health specialty areas (35.2%).

A common refrain qualitatively was, “We have waited a long time for this type of program at Maryland and we want to take full advantage of the opportunity and support its development.” The number one overall reason for returning to school for a DSW was to “enhance their clinical practice skills” (75.1%).





D. Reasonableness of Program Duplication:

1. Identify similar programs in the State and/or same geographical area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.

There is only one other DSW program in the State of Maryland, located at Morgan State University (MSU). Their DSW program enrolled its first cohort in Fall 2023 and is delivered online with a significant focus on social policy, community organizing, and advocacy, preparing graduates to serve urban populations.

MSU describes the mission of their program as follows on their website:

“The DSW program at Morgan State University prepares experienced MSW practitioners for advanced social work practice and human service leadership with urban individuals, families, and communities. The intersections of racial, economic, and gender-based oppression disproportionately place urban individuals, families, and communities at risk of experiencing social and mental health problems. This disproportionality represents a major social injustice that unfairly diminishes the ability of urban individuals, families, and communities to demonstrate their vast positive potential.

Using this conceptual framework as a guide, Morgan’s DSW program is focused on addressing the unjust educational, behavioral health, and additional healthcare systems that have created barriers to maximum social, economic, and psychological functioning for urban populations. The DSW program at Morgan also relies heavily on culturally competent intervention models that affirm and build on the experiences and perspectives of historically oppressed communities. Applicants interested in interacting with and engaging urban individuals, families, and communities utilizing a

culturally inclusive and strengths-based perspective are encouraged to apply.”
(Reference: <https://www.morgan.edu/doctorate-of-social-work/mission-and-goals>)

Most, if not all, clinical DSW programs across the nation have adopted courses such as advanced clinical methods, applied research, teaching, leadership, supervision, and some type of capstone project. However, each institution can tailor their programs to the needs of their student groups and institutional mandates and strategies. Although UMB and MSU have a few courses with similar sounding names, their content, structure, and methods of delivery and assessment are quite different and will attract different students. See Appendix C for a detailed course- by-course analysis between UMB and MSU.

Our proposed DSW program is differentiated from MSU’s in several key ways:

- **In-person v. online:** UMB’s proposed DSW program is a fully in-person educational experience. Consequently, this approach will attract students who prefer an in-person learning environment over an online degree. Having another modality of learning will only add to the depth of the educational ecosystem and will honor different learning styles.
- **Length of program:** UMB’s proposed DSW will require 60 credit hours, compared to MSU’s 36-credit program, and each core educational component will be supported by a lab or practicum experience. These differences in curriculum and delivery methods will attract different student audiences and provide students with options not available from a fully online curriculum.
- **Leveraging strength in IPE:** UMB’s proposed DSW program leverages its tremendous strength in Interprofessional Education (IPE). This collaborative approach is a true strength, and a value add as it prepares future professionals to work in multidisciplinary teams, improving patient outcomes and promoting better health system functioning. Social work, by way of its training and use of a biopsychosocial model, is uniquely prepared to serve as a member of the health care team and continue to evolve as a leader in the IPE movement. While maintaining the values of the Social Work profession, we aim to include instructors from the schools of Pharmacy and Medicine (Psychiatry, Public Health) to co-teach topics such as psychopharmacology, behavioral psychophysiology, neuro anatomy and models of psychotherapy and mental health diagnoses, etc. There is evidence that behavioral health is nested within and moderates a person’s physical health. Likewise, a person’s physical health status influences their psychological adaptations and wellbeing. To our knowledge, no other DSW program in the country has an interprofessional training focus, which makes our program unique in its scope and educational opportunities.
- **Curriculum:** MSU’s curriculum focuses on healthcare for the underserved, technology, human behavior, clinical practice, entrepreneurship, non-profit management, fundraising, workforce development, and spirituality. These courses are primarily macro-focused and aimed at population-based interventions. MSU emphasizes the historical and cultural traditions in diverse populations of color and how social institutions and policies contribute

to problems such as structural racism. This differs from UMB’s curriculum, which has a broad focus with emphasis on behavioral health, advanced clinical skills, teaching, supervision, and leadership.

Attribute	UMB DSW Program	MSU DSW Program
Delivery Format	Fully in-person, weekend	Fully online
Focus Areas	Broad – Behavioral health, advanced clinical skills, teaching, supervision, leadership. Leverages UMB’s strengths of Interprofessional Education	Focused on Urban - Social policy, community organizing, advocacy
Clinical	Clinical focus	Some clinical focus but primarily focused on Policy change and advocacy
Hands-on Training	Simulation and live supervision	Not specified
Credit Hours	60 credit hours	36 credit hours
Target Students	Prefer in-person, hands-on learning	Prefer online learning
Length of Degree	3 years	3 years

By offering both online and in-person programs, Maryland can cater to a diverse range of learning preferences and needs, ensuring that all students have the opportunity to succeed. Blended or hybrid models, which combine elements of both online and in-person instruction, also present a viable solution for accommodating various learning styles. These models can provide the flexibility of online learning with the structured support of in-person classes, offering the best of both worlds. In this way, Maryland can foster a more inclusive learning environment that maximizes student engagement and success across different educational settings.

Online learning is highly effective for students who excel at managing their time, setting goals, and regulating their study habits (Broadbent, 2015). These self-regulated learners are able to structure their own study schedules, prioritize tasks, and stay organized, which are crucial skills for succeeding in the less structured online environment. Without the physical presence of instructors

or classmates, time management becomes a key factor in ensuring that students meet deadlines and stay on track with course materials.

Research further highlights that learners who are intrinsically motivated—those driven by an internal desire to learn rather than external rewards—tend to engage more deeply with course content and are more likely to persist through challenges in online learning (Artino, 2010). Students who are comfortable using technology can adapt more quickly, allowing them to focus on learning rather than grappling with technical barriers (Kennedy et al. 2008). However, lack of access to technology or insufficient digital skills can be a significant barrier for some students, highlighting the need for equitable access to the necessary tools and support.

While online learning offers flexibility and independence, it may not be a learning style that will suit all students. Some learners benefit from the structured environment and real-time interactions provided by in-person classes. These students may find it easier to engage in discussions, collaborate with peers, and receive immediate feedback from instructors in a traditional classroom setting. The physical presence of peers and instructors can create a sense of community and accountability that fosters engagement and motivation.

We anticipate no negative impact on MSU's DSW program or applicant pool due to the significant distinctions between the programs, the size of the audience of prospective students, and the ability for comparable neighboring states to also host multiple DSW programs. With over 11,000 clinical social workers licensed in Maryland, there is ample demand to support both programs. By offering only one DSW program, Maryland limits opportunities for students seeking this advanced degree. In contrast, states within the Mid-Atlantic region, such as Pennsylvania and New York, host multiple DSW programs that meet diverse student needs without creating enrollment competition. This demonstrates that complementary DSW programs can effectively coexist within the same state. The national trend supports the growth of multiple DSW programs within states. Just as a single MSW program cannot meet the needs of an entire state, there is a growing need for multiple DSW programs to serve a broader range of students and professional demands.

Our goal is to join MSU in offering the full spectrum of social work degrees to serve both students and in turn citizens of the state of Maryland. By doing so, we aim to meet the educational and service needs of the state more effectively. Expanding the availability of these programs will help address the critical shortage of trained providers, particularly those who are culturally and linguistically competent, and ensure that the behavioral health workforce is better equipped to serve Maryland's diverse population. This would also allow the region to have a stronger voice in advocating for policies that support social work education and practice, leading to more effective advocacy for resources and support at the state and national levels.

2. Provide justification for the proposed program:

As a nationally ranked School of Social Work, we are committed to staying at the forefront of social work education by cultivating leaders who drive transformative change in both practice and policy. A school of our caliber must not only reflect excellence but also push the boundaries of innovation to maintain leadership in the field. In response to the increasing complexities of social work practice, we recognize the imperative to expand our academic offerings with the introduction of a

Doctor of Social Work (DSW) program. This program will ensure our graduates are equipped with advanced skills to address societal needs at local, national, and global levels, integrating leadership, advanced practice, and policy development to shape the future of the profession.

The University of Maryland School of Social Work (SSW), established in 1961, has grown to become one of the largest and most respected schools of social work in America. The SSW graduates over 350 MSW students each year, is the largest in the state and consistently ranked in the top 25 schools of social work in the country. Students come to our school from over 20 states, the District of Columbia, and several foreign countries. The SSW has over 80 full-time faculty members, and the publication records of our faculty indicate the high caliber and productivity of these scholars. Further, the SSW has one of the largest and strongest macro-level programs of study in the country. With the expanding need of trained social workers, the state of Maryland approved \$120 million to be used for a new SSW building. Emphasizing the University's commitment to sustainability, the building will include solar panels, geothermal energy, and green space.

The UMB SSW is well positioned to be a leader in developing innovative curriculum in DSW education based on our talented faculty and robust resources, and is justified for the following reasons:

- The ongoing and evolving mental health needs of Marylanders require highly skilled doctoral prepared practitioners who can supervise, educate, and train the next generation of social workers.
- There is a clear interest and need expressed by Maryland licensed social workers for opportunities to develop administrative and leadership skills that will advance their careers while remaining gainfully employed.
- There is a need for highly trained and doctoral prepared clinical instructors/supervisors to teach in the 11 social work education programs in Maryland.
- The proposed DSW program is consistent with the mission of the University and its strategic plan to serve the citizens of Maryland.
- An alumni survey documented a significant expressed need for a clinically focused, in-person DSW program in Maryland.
- There is only one approved DSW program in the State with a focus on promoting social justice with urban populations of color. UMB has a strong clinical focus which will enhance the behavioral health of the state.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.

We do not anticipate the proposed Doctor of Social Work degree at UMB will affect the implementation or maintenance of the only Doctor of Social Work program located at Morgan State University (MSU). Both institutions are committed to advancing social work education and practice; we believe our program will complement rather than compete with the existing program at MSU. There are many opportunities for collaboration between MSU and UMB, and we believe that through collaboration and cooperation we will strengthen the social work education landscape in

Maryland without impeding the progress or success of existing programs. Our interest is to support the MSU program, as each of our programs continue to establish and evolve.

We would value establishing a relationship with MSU that will support both institutions' education programs. Establishing collaborative relationships can be incredibly beneficial for educational programs. We believe that working together, sharing ideas, resources and jointly educating our students will enhance the mission of both institutions and better serve the citizens of Maryland.

F. Relevance to the identity of Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

Our proposed DSW program will not affect the uniqueness and institutional identities of a HBIs or impact its enrolled students in any negative way. In addition, we as a Primarily White Institution (PWI) in Baltimore City are committed to contributing to the education of anti-racist/anti-oppression skills, values, and attitudes of social work leaders, teachers, clinicians, and supervisors. We owe this to our city, our state, and our profession. We seek to be a good partner and ally to all HBIs. We recognize the critical nature of MSU's contributions in this space, and have deliberately re-focused our curriculum to avoid duplication, while addressing important workforce needs of the state. As noted previously, we are further open to collaborating in all aspects of program development and implementation and look forward to these discussions.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes:

1. Describe how the proposed program was established and describe the faculty who will oversee the program.

The proposed DSW program reflects the goals of the UMB campus, the interests of our alumni, the needs of the State of Maryland, and the expertise of the school's talented faculty. UMB's SSW has educated the vast majority of licensed social workers in the state since 1961. Our expertise in clinical training positions us as a national leader in educating and training social work practitioners at the highest level. Our clinical faculty has a wealth of experience that will create a comprehensive educational program and be a model for the State and Mid-Atlantic region.

Dr. Edward Pecukonis will serve as the inaugural director of the DSW program. He is responsible for all administrative activities related to recruitment, admission, and training of students and reports to the SSW Dean. Dr. Pecukonis has over 40 years of clinical experience on the UMB campus and is a full Professor at the SSW. Dr. Pecukonis is an expert in clinical treatment methods such as CBT, DBT, motivational Interviewing, and family therapy. Notably, Dr. Pecukonis has expertise in IPE and is a co-founder of UMB's Center for Interprofessional Education. He chaired the campus task force on IPE for former UMB President and now Chancellor of University System of Maryland, Dr. Perman, and is considered a leading expert on how to incorporate social work in team-based healthcare. IPE is a critical strength of our DSW, and intentionally incorporated into the proposed curriculum to promote effective communication with other professions and shared decision making while advocating for social justice and the well-being of our clients.

Along with other clinical faculty, Dr. Pecukonis will serve as the technical expert on course content and pedagogy. As part of the SSW planning process, Dr. Pecukonis has an advisory committee appointed by the Dean to provide curriculum guidance.

2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

Program Objectives: Our proposed DSW program aims to:

- Assist students to integrate theory with practice methods to improve psychotherapy/social work services to individuals and families across all demographics and populations.
- Apply relevant Biopsychosocial and social work practice theories to client centered care and the process of change at the individual, family, and community level.
- Students will further develop use of self, self-appraisal, and use of self-reflection in clinical encounters to improve their ability to provide therapeutic services to diverse clients.
- Effectively assist their clients to explore and develop helpful and personalized solutions to their presenting problems.
- Assist students to develop expertise and competence in cognitive-behavioral therapy, Dialectical Behavioral therapy, motivational interviewing, interpersonal psychotherapy, EMDR and other modalities as outlined in our curriculum or of interest to the student.
- Prepare trainees to teach advance clinical social work curriculum to BSW and MSW students within a classroom setting including skills in curriculum development, effective classroom management strategies, case-based teaching methods, simulation and competency-based education strategies and assessments.
- Develop expertise in methods of individual, and group supervision, use of self and value of self-reflection in the therapeutic encounter and decision-making processes associated with psychotherapy that is rooted in evidence-based approaches and ethical principles of the social work profession.
- Students will develop skills in both quantitative and qualitative research and be able to apply these skills to the clinical setting and program management to both develop and assess community-based treatment programs and interventions.
- Students will identify and refine their leadership style and its impact on educational and clinical services to clients, students, and communities.
- Students will develop expertise and demonstrate competence in promoting social justice, health equity, embracing diversity and inclusion of all people across all social environments.
- Students will learn to use these principles in clinical, teaching, and administrative work.
- Engage students in articulating what is anti-racist, anti-oppressive, clinical education and practice in the various contexts and settings in which they work and demonstrate competence in confronting and dismantling these threats.

Student Learning Outcomes: At the end of the program, students will:

- Apply social work leadership and management skills to enhance their agency practice environments through a defined class project.

- Demonstrate leadership ability through thoughtful and respectful communication with other health care professionals that promotes effective, ethical, and safe, client centered care within their agency.
- Use leadership skills, effective communication collaboration and reduced profession centism across interprofessional environments with diverse clients and health care providers.
- Describe biological basis of human behavior and the epigenetic interaction between endogenous and exogenous factors influencing a person's mental health.
- Use qualitative and quantitative research methods to develop a systematic inquiry of an advanced area of social work clinical practice through their capstone project.
- Apply social work research methodologies to evaluate clinical practice and use these findings to select and employ evidence-based interventions within their specific agency practice setting.
- Critically evaluate advanced-level evidence-based practices theories and their application to their specific agency-based client population they presently serve.
- Analyze complex information about social work evidence, practice skills, and interventions clearly and creatively for professional and academic audiences in written and oral formats.
- Demonstrate knowledge and understanding of the dynamic and evolving biopsychosocial sciences and the application of this knowledge to patient/client care.
- Identify, evaluate, and implement innovative and cutting-edge methods of psychotherapy and treatment to address complex social and behavioral health conditions.
- Engage clients, accurately identify presenting complaints, identify their stage of change, assess the impact of biopsychosocial factors contributing to the presenting complaint, collaboratively develop an effective intervention plan based on valid theory and/or behavioral health technology and create a plan to reduce relapse.
- Demonstrate clinical competence in mastering one form of empirically valid psychotherapy through simulation and use of standardized clients.
- Exercise an ability to promote social justice and advocate for health equity within their clinical simulations, classroom behavior with peers and within their home agency and work with their supervisees.
- Facilitate effective engagement and supervision of social workers and social work students.
- Teach the use of self-reflection and appraisal during supervision to improve client outcomes and achieve treatment goals.
- Illustrate teaching competence by designing a clinical social work course that includes a syllabus, learning objectives, readings, classroom activities, homework assignments, assessment tools.
- Demonstrate clinical teaching skills by designing and teaching a seminar series or clinical course at the SSW.

3. Explain how the institution will:

a) Provide for assessment of student achievement of learning outcomes in the program

Student learning outcomes for all dimensions of the DSW curriculum will be operationalized and assessed using exams, observational rubrics, and other objective measures. The overall goal of this

assessment process is to make certain that our curriculum is preparing students for the workforce. Student learning will be assessed by each course instructor at prescribed intervals during a 15-week semester. The DSW faculty will evaluate course outcomes and student performance. In this manner, the attainment of goals and objectives for each course will be evaluated. Each student learning outcome will reflect the goals and objectives of the curriculum. In addition, all outcomes will be operationalized and measured objectively with a focus on skills and clinical competencies.

b) Document student achievement of learning outcomes in the program

Whenever possible student learning outcomes will be competency-based. The Council on Social Work Education emphasizes the importance of evidence-based practice (CSWE, 2016). Most Social Work students are introduced to evidence-based practice (EBP) models in the classroom. They are assigned readings, listen to lectures, and may become quite knowledgeable about an intervention method. However, knowledge is not equated with clinical competence, and it is rare that a student becomes an excellent clinician by only reading a textbook or listening to a lecture. In any vocation or skilled profession, a student develops competence and master's approach by practicing the skill under the careful eye of a mentor. Extensive experiential/practice opportunities within the classroom for students will be used. We will employ a teaching model that combines the best of classroom learning (acquisition of knowledge) with the best of field (experiential or hands on learning). To accomplish this goal we will employ simulation, live supervision, and debriefing with standardized patients for both skill acquisition and skill competency assessment.

A Standardized Patient (SP), or Standardized client (SC) as they are known in Social Work, is a skilled actor that is recruited and carefully trained to simulate a clinical encounter. The actor is provided with a script or set of behaviors, attitudes, and emotions to portray during the clinical encounter. The actor prepares their presentation uniformly and responds consistently across interviews and thus standardizes the format for teaching and evaluating learning. This standardized presentation assists trainees to either practice a clinical skill or be evaluated on their mastery of this skill. Our standardized clients will be scripted to portray a predetermined history and to give responses within the clinical interview that simulates a "real client." This method will allow the DSW students to ethically interview the same client sequentially with minimal deviation in the client's presentation and reaction across trainee interviews. This standardization will allow us to grade or evaluate how well a DSW student has mastered the course content. We will use standardized clients to teach trainees in a developmental manner and to assess proficiency/ competency/ mastery of a particular clinical skill following a training sequence or course.

Simulation and Debriefing: Consolidation of clinical learning derived from simulated encounters with standardized clients is best accomplished by "debriefing." Paliganas and colleagues (2016), suggest that debriefing is the most critical dimension of simulation. It allows not only for feedback about what happened during the interview but also encourages trainees to reflect on internal experiences including perceptions, thoughts and emotions encountered during the interview. These factors help consolidate learning. In addition, the trainee receives direct feedback from the instructor, peers, and the simulated client.

Live Supervision: A key feature to our curriculum model incorporates live supervision where the instructor watches and provides guidance to DSW students interviewing a standardized client

during a simulated interview. The instructor/supervisor watches through a one-way mirror or via visual aid (TV camera positioned in the interview room) with the ability to communicate with the trainee via earpiece and microphone. The student in turn utilizes this live supervision to develop and refine specific skills being taught. Live supervision is valued for its ability to provide immediate feedback, increase self-awareness, and improve clinical skills. When possible and appropriate to the course structure, live supervision with standardized clients in a simulation format will be used to teach skills and assess student learning.

Developing clinical simulations: Theories of adult learning will guide the construction, application and evaluation of clinical simulation and the use of standardized clients (Palaganas et al., 2016). The process of creating valid and instructive simulation cases is not only time consuming but critical to the live supervision process and assessing student learning. The simulation case must be believable, detailed, and of interest to the trainees. Case histories used by the actors include descriptions of symptoms, clinical presentation, mood, body language, and motivation for each simulation. Written objectives for the simulation are developed and shared with the standardized actor. The goal is to anchor the standardized client's presentation and reactions during the simulation to these learning objectives. Thus, actors or simulated clients must be oriented to the training process and be prepared to portray the client in a believable manner. Training of standardized clients occurs prior to each simulation that includes a detailed case discussion, along with outlining the objectives of the training and how the client might react to a wide range of trainee responses. The standardized client(s) then practice these portrayals prior to meeting with trainees.

Qualifying exam: A student will achieve Candidacy after passing a comprehensive examination offered after completing Year 1 and 2 of classroom academic requirements with a GPA of 3.0 or better. This examination may require both a written exam, demonstration of clinical skills via simulation, and/or oral examination by the DSW faculty. This comprehensive examination will be scheduled during the summer months between Year 2 and 3. All written examinations will be read by two DSW faculty who will grade the exam as meeting requirements (pass) or not meeting requirements (fail). Students who do not pass this examination will not be enrolled for their third and final year of training until a passing grade is obtained for the comprehensive exam. Students who initially fail this exam will have one additional opportunity to meet this requirement prior to dismissal from the program. After achieving candidacy, the student's primary task will be to complete, present, and defend their capstone project. It is expected that students will have met all requirements for graduation by the completion of the spring semester of their third year of matriculation.

Capstone Project: Throughout their matriculation, students will work on an original and comprehensive Capstone Project which integrates the knowledge and skills they have developed, strengthened, and refined throughout the course of the program. This project should position students as collaborative leaders, contributing new ideas, frameworks, or services to their area of focus in the realms of clinical education, leadership, and/or practice. Students will work on their Capstone Project supported by a team of at least two advisors: one of whom will be faculty affiliated with the SSW, and another who is deeply engrained in the community connected to each student's area of focus.

There are three options for the format of Capstone Projects that students may choose:

1. The creation of an interactive web-based training that disseminates innovative clinical knowledge and learning opportunities in their area of focus.
2. First-authorship of a scholarly paper published (or publishable) in an academic journal that contributes new clinical discourse in their area of focus.
3. Development and (initial) implementation of a new program designed to address unmet needs within their area of focus and that contributes to individual or community healing, wellbeing, or access to knowledge in the clinical realm.

Each student, in consultation with their faculty and community advisors, will seek approval for their Capstone Project from the DSW Director. Students will submit a brief overview of the project that includes: an outline of the proposed project, an explanation of the needs addressed by the project, its alignment with social work values and principles, potential impact and significance, and benchmarks of success that can be used for evaluation of the project at the culmination of the DSW program. As part of the Capstone Project each student will present their project and its impact within a colloquium. Presentations will focus on the collection of work they've undertaken during their time in the DSW program including how they have incorporated a Justice, Equity, Diversity, and Inclusion (JEDI) lens in their work, sharing and disseminating accomplishments and learning derived from their Capstone Project; and sharing their plans as they move this work forward. Additionally, the Capstone Project will promote an exercise in self-reflection where students are challenged to dig deep and explore any feelings of discomfort that arise surrounding challenging concepts. Students should challenge themselves by asking: What will it cost to change? What will it cost to stay the same? What does it mean to have courage in this context, and how will this enrich the journey to become a better social work clinician?

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.

The DSW will require the completion of 60 credit hours that can be completed over a three-year period. The components of the proposed curriculum are as follows:

Advanced Clinical Practice Theory and Methods Series

SWCL 800: Advance Clinical Practice Theory: Historical Perspectives and Current Contexts

SWCL 801: Neuro-biological Basis of Human Behavior

SWCL 803: Psychopharmacology and Complimentary Therapeutics

SWCL 804: Foundational Clinical Practice Models

SWCL 809: Innovations in Clinical Practice

SWCL 812: Integrating Clinical Practice Models

SWCL 818: Integration Seminar and Case Presentation

SWCL 821: Simulation and Case Consultation Lab

Teaching Pedagogy Series

SWCL 813: Social Work Teaching and Training Pedagogy: Theory and Practice

SWCL 817: Social Work Course and Curriculum Design Lab

Leadership Development Series

SWCL 811: Leadership Styles in Social Work Practice Lab

Supervision Methods Series

SWCL 805: Supervision and Mentorship

SWCL 810: Supervision and Mentorship Lab

Justice Equity, Diversity, and Inclusion Series

SWCL 806: Equity, Diversity and Inclusion in Social Work

Research Methods Series

SWCL 802: Philosophy of Science in Social Work

SWCL 807: Publication and Grant Writing Lab

SWCL 814: Research Methods/Qualitative Approaches

SWCL 819: Research Methods/Quantitative Approaches

Innovation and Impact (Capstone) Project Series

SWCL 815: Capstone Development Lab

SWCL 816: Capstone Project Seminar

SWCL 820: Capstone Project Seminar

The curriculum consists of six major curriculum areas, along with a capstone project. Each series includes at least one laboratory or “lab” course. Our lab courses are designed as practical, experiential seminars where students can focus deeply on the application of their learning in a setting that emphasizes hands on learning, community engagement, and/or novel content development as part of a community of learning.

Candidacy Requirements: A student will achieve Candidacy after successfully passing a comprehensive competence simulation/examination that is offered after the completion of the first two years of classroom learning with a GPA of 3.0. or better. This examination may require both a written exam, demonstration of clinical skills via simulation and/or oral examination by the DSW faculty. This comprehensive examination will be scheduled during the summer months between Year 2 and 3. All written examinations will be read by two DSW faculty who will grade the exam as meeting requirements (pass) or not meeting requirements (fail). Students who do not pass this examination will not be enrolled for their third and final year of training until a passing grade is obtained for the comprehensive exam. Students who initially fail this exam will have one additional opportunity to meet this requirement prior to dismissal from the program. After achieving candidacy, the student’s primary task will be to complete, present, and defend their capstone project. It is expected that students will have met all requirements for graduation by the completion of the spring semester of their third year of matriculation.

Capstone Project: Throughout their matriculation, students will work on an original and comprehensive Capstone Project theme which integrates the knowledge and skills they have developed, strengthened, and refined throughout the course of the program. This project should position students as collaborative leaders, contributing new ideas, frameworks, or services to their area of focus in the realms of clinical education, supervision, and/or practice. Students will work on

their capstone supported by a team of at least two advisors: one of whom will be faculty affiliated with the SSW, and another who works within a community consistent with each student's area of focus.

There are three options for the format of Capstone Projects that students may choose:

1. The creation of an interactive web-based training that disseminates innovative clinical knowledge and learning opportunities in their area of focus.
2. First-authorship of a scholarly paper published (or publishable) in an academic journal that contributes new clinical discourse in their area of focus.
3. Development and (initial) implementation of a new program designed to address unmet needs within their area of focus and contribute to individual or community healing, wellbeing, or access to knowledge in the clinical realm.

Each student, in consultation with their faculty and community advisors, will seek approval for their Capstone Project from the DSW Director. Students will submit a brief overview of the project that includes: an outline of the proposed project, an explanation of the needs addressed by the project, its alignment with social work values and principles, potential impact and significance and benchmarks of success that can be used for evaluation of the project at the culmination of the DSW program. As part of the Capstone each student will present their project and its impact within a colloquium. Presentations will focus on the collection of work they've undertaken during their time in the DSW program including how they have incorporated a Justice, Equity, Diversity, and Inclusion (JEDI) lens in their work, sharing and disseminating accomplishments and learning derived from their Capstone Project; and sharing their future plans as they move this work forward. Additionally, the capstone project will promote an exercise in self-reflection where students are challenged to dig deep and explore any feelings of discomfort that arise surrounding challenging concepts. Students should challenge themselves by asking: What will it cost to change? What will it cost to stay the same? What does it mean to have courage in this context, and how will this enrich the journey to become a better social work clinician?

Typical Plan of Study DSW Year 1 through Year 3

The DSW program is full-time with all courses taught in-person and for one weekend (Friday, Saturday, and Sunday) per month spanning each fall and spring semester for a total of 10 months. Students will also participate in three weeklong summer intensive two (2) credit courses occurring prior to each fall semester. All full-time students will complete three (3) courses per semester for a total of nine (9) credits. Students will complete a total of 20 credits each year of the program that includes the two-credit weeklong summer intensive requirements. As this is a cohort program, students will complete the following course work in sequence with their assigned/admitted cohort. This structure will help to create a powerful learning community for students. Course numbers are for demonstration purposes only and may need to reflect registrar's preferred structure upon approval of the DSW program.

**SCHOOL OF SOCIAL WORK | DOCTOR OF SOCIAL WORK (DSW)
COURSE DESCRIPTIONS**

DSW - Three Year Plan of Study		
Year 1: Weeklong intensive summer seminar series (2 credits) SWCL 806: <i>Justice, Equity, Diversity and Inclusion</i>		
Year 1: Fall Semester		
Course number	Course Name	Credits
SWCL 801	Neuro-Biological Basis of Human Behavior	3 credits
SWCL 800	Advanced Clinical Practice Theory: Historical Perspectives and Current Contexts	3 credits
SWCL 802	Philosophy of Science in Social Work	3 credits
Year 1: Spring Semester		
Course Number	Course Name	Credits
SWCL 803	Psychopharmacology and Complimentary Therapeutics	3 credits
SWCL 804	Adapting Foundational Models for Clinical Practice	3 credits
SWCL 805	Supervision and Mentorship	3 credits
Year 2: Weeklong intensive summer seminar series (2 credits) SWCL 807: <i>Publication and Grant Writing Lab</i>		
Year 2: Fall Semester		
Course number	Course Name	Credits
SWCL 809	Innovations in Clinical Practice	3 credits
SWCL 810	Supervision and Mentorship Lab	3 credits
SWCL 814	Research Methods: Quantitative Approaches in Clinical Social Work Practice Settings	3 credits
Year 2: Spring Semester		
Course Number	Course Name	Credits
SWCL 812	Integrative Practice	3 credits
SWCL 813	Social Work Teaching and Training: Pedagogical Theory and Practice	3 credits
SWCL 819	Research Methods: Qualitative Approaches in Clinical Social Work Practice Settings	3 credits
Year 3: Weeklong intensive summer seminar series (2 credits) SWCL 815: <i>Capstone Project development</i>		
Year 3: Fall Semester		
Course number	Course Name	Credits
SWCL 818	Integration Seminar/ Case Presentation	3 credits
SWCL 817	Course and Curriculum Design Lab	3 credits
SWCL 816	Capstone Project Seminar	3 credits
Year 3: Spring Semester		
Course Number	Course Name	Credits
SWCL 811	Leadership and Mentoring Lab	3 credits
SWCL 821	Simulation and Case Consultation Lab	3 credits
SWCL 820	Capstone Project Seminar	3 credits

Advanced Clinical Practice Theory and Methods Series

- **SWCL 800: Advanced Clinical Theory: Historical Perspectives and Current Contexts (3 credits)**
This course will examine personality development in terms of behavior, emotions, and cognitions and how these interrelated constructs influence present adaptations and the process of change for clients. Students will explore the underlying values, assumptions, methods, and research evidence for each practice theory. The focus of this class will be on theories that were prominent during the early and mid-twentieth century, through selections of original contributions from id or drive psychology, attachment, ego psychology, object relations, self-psychology, family systems, behavioral, narrative, cognitive/behavioral therapy, NMT and interpersonal neurobiology. Drawing primarily from original sources, students will consider key assumptions, constructs, and propositions of each theory in terms of its congruence with social work's principles, values, and mission, as well as its application and relevance to the identities and experiences of the communities and contexts of which each student is a part.
- **SWCL 801: Neuro-Biological Basis of Human Behavior (3 credits)**
This course will provide an overview of the neurobiology shaping behaviors that inform clinical social work practice. Students will explore the impact of genetics, neuroanatomy and physiology in the etiology of emotional disorders and behavior. The course will review basic neuroanatomy, behavior physiology, and neurodevelopment. The course explores the mind and body connection in moderating a person's mental health and psychological wellbeing. Special attention will be given to the Neurosequential Model of Therapeutics and trauma theory including the NMT metrics of sensory integration, self-regulation, relational function, and cognition. This course will be co-taught by interprofessional faculty.
- **SWCL 803: Psychopharmacology and Complimentary Therapeutics (3 credits)**
This basic course in psychopharmacology will be co-taught by faculty from the Schools of Social Work and Pharmacy. Students will be introduced to the basics of pharmacotherapy addressing the more common DSM-5 diagnoses. Key medications with their clinical indications, symptom management, and dosage will be addressed. Students will be introduced to commonly used medications to treat mood disorders, anxiety, PTSD, personality disorders and schizophrenia. The course will emphasize the mechanism, action, contraindications, interactions with other medications and side effects of each class of medications. This course will require the completion of SWCL 801 as a prerequisite. The sociocultural context relevant to psychopharmacological interventions including access, demographic disparities, cultural beliefs about medication, and their use as a complement to psychotherapeutic interventions will also be discussed. *This course will require the completion of SWCL 801 as a prerequisite.*

The Advanced Clinical Methods Series will build on the earlier curriculum content that explores JEDI as a grounding framework for practice, focusing on concrete skills for working alongside individuals and communities in a clinical context. The first two courses in this series will provide an opportunity for students to explore in-depth a framework or clinical modality of interest to them, and apply it to their own area of focus, with an emphasis on understanding the context in which the model developed, the core skills and interventions associated with it, and the ways in which those skills translate to their practice area. The final course in the series will build on that knowledge and

support students in exploring and applying clinical interventions in an integrative, culturally responsive framework that is specifically adapted to meet the unique needs of the communities in which they work. Throughout each of these courses, students will analyze the pros and cons of each clinical modality, including discussion of the ways in which multiple forms of oppression manifest in therapy and clinical practice. Students will learn how to embrace an antiracism approach to reach level of competency that promotes safety and prevents harm coming to those they desire to help, exploring the ways in which they can be an active force in improving clinical frameworks and modalities to be more anti-racist, anti-oppressive and inclusive.

- **SWCL 804: Adapting Foundational Models for Practice (3 credits)**

In this seminar-style course, students will explore in depth the three major psychotherapeutic frameworks that have historically guided clinical work in the United States: psychoanalysis/ psychodynamic/ relational, behavioral, and cognitive models. Students will examine the origins of these modalities, including the experiences of the creators and the sociopolitical context in which these techniques emerged, and the core therapeutic skills and interventions associated with their implementation will be demonstrated and practiced. Students will also explore the ways in which these modalities have either hindered or cultivated justice, equity, diversity and inclusion and learn how to recognize and embrace an ARAO approach in clinical practice. While these modalities have been utilized for quite some time, students will explore innovative platforms through which they are or could be delivered (for example using telehealth platforms, web or phone-based applications, and other mechanisms that might expand access to behavioral health services). Individually or in collaborative teams, students will choose a specific framework connected to one of these three streams of psychotherapy, concentrating on its application within their own area of focus or population of interest. Application should explore any needed adaptations and/or innovations to better meet the needs of the population or communities with which they work. Each student will create and present a case conceptualization, a simulated demonstration video implementing the skills associated with their chosen modality and identify questions or topics for consultation and discussion amongst course participants.

- **SWCL 809: Innovations in Clinical Practice (3 credits)**

In this seminar-style course students will use the same framework of exploration, inquiry, and application/simulation to engage with a variety of clinical modalities that have developed as part of a “third wave” or move toward more integrative practice models that attempt to center concepts like meaning making, trauma-informed care, individual and collective narratives, cultural humility, critical consciousness, mindfulness, relationship skills, the brain-body connection, and/or values-centered action. This includes models such as Narrative Therapy, Dialectical Behavior Therapy, Motivational Interviewing, Acceptance and Commitment Therapy, Schema Therapy, Eye Movement Desensitization and Reprocessing Therapy, Internal Family Systems Therapy, Healing Circles, and culturally rooted/indigenous therapeutic practices. Individually or in collaborative teams, students will choose a modality in which they would like to develop deeper knowledge and skill, concentrating on its application within their own area of focus or population of interest. Application should explore any needed adaptations and/or innovations to better meet the needs of the population or communities with which they work. Specifically, students will be challenged to explore how such adaptations and/or innovation can cultivate antiracism, justice, equity and inclusion. Each student will create and

present a case conceptualization; a simulated demonstration video implementing the skills associated with their chosen modality and identify questions or discussion topics for consultation and discussion amongst course participants.

- **SWCL 812: Integrative Practice (3 credits)**

Traditionally, clinical education has focused on the provision of therapeutic services through specific frameworks or modalities. However, in practice most clinicians develop their own style of integrating clinical tools, philosophies, and interventions to fit the unique and diverse needs of the individuals and communities with whom they work (Zarbo et al., 2016). Openness to integrative, flexible, culturally responsive practice is in line with efforts to decenter more rigid western-colonial perspectives and meet the unique needs of each person or community in their specific context. This course will explore different frameworks for integrative practice and give students the opportunity to consider and articulate what aspects of different traditions, tools, and evidence-supported frameworks might be most helpful in their own area of focus or population of interest. As part of this course, students will research different aspects of effective practice within their specific area of focus including multiple forms of evidence: scholarly research, clinical trainings, and community voices, feedback, and narratives. Each student will develop a training guide, demonstration video, or scholarly paper focused on the application and adaptation of clinical modalities within the sociocultural context of the communities or populations they work alongside, with an emphasis on integrative person or community-centered practice.

- **SWCL 818: Integration Seminar and Case Presentation (3 credits)**

This course will engage students in progressively higher-level critical thinking and clinical decision making using a case-based approach along with simulation. This seminar will allow students to integrate their DSW academic course work with clinical experiences from their employment sites and work with their own clients. These seminars will emphasize not only the application of theory to clinical encounters, but also enhance the process of self-reflection, self-awareness, use of self and application of ethical principles including anti-racism and anti-oppression principles within their practice. Students will present and discuss client cases, their diagnoses, theoretical conceptualization of the presenting problems, treatment planning and specific interventions used. The group will provide feedback and assist in formulating effective interventions. Students will learn methods of effective consultation both in-person and using telehealth care devices. Students will learn the process of effectively triaging clients for services, identifying potential risks (health/behavioral health) develop skills in safeguarding risk, promoting safety plans and appropriate documentation of each case. Simulation and role play of client encounters will be used.

- **SWCL 821: Simulation and Case Consultation Lab (3 credits)**

Clinical Social Work practice involves not only working with individuals and families but also working alongside other professionals (working interprofessionally) in the care of your clients. Effective interprofessional collaboration, teamwork and communication is necessary. This course will discuss how to conduct short term consultative services, telehealth services, provide written and verbal feedback of assessments, and how to craft helpful recommendations for colleagues in support of clients' well-being.

Teaching Pedagogy Series

- **SWCL 813: Social Work Teaching and Training: Pedagogical Theory and Practice (3 credits)**
The aim of this course is to provide students with the basic foundation and advanced knowledge of the theory and practice of social work teaching. The course focuses on the theoretical and technical aspects of delivering social work education. The main focus of the course is to create, to the extent possible, the simulation of real-world teaching situations designed to help students develop their *teaching practice* through a process of critical reflection, integration, and application. The development of teaching skills is a critical focus of the course. The course covers social work teaching at both the BSW and MSW levels. The course includes theories of **andragogy** and reflective practice, curriculum development, teaching methodologies and techniques, general classroom activity, assessment and evaluation of students, testing methodology, ethical considerations, and professional academic development at BSW and MSW levels of social work education. Readings are drawn from social work education literature as well as from interprofessional perspectives, including teaching and learning in higher education.
- **SWCL 817: Course and Curriculum Design Lab (3 credits)**
This second teaching course will be a practicum experience for DSW students. Students will be assigned to create and implement a social work training seminar or course at their employment site or through the SSW. For example, Students may guest lecture in an appropriate SW course and provide at least one three-hour lecture on a topic reflecting their clinical specialty of interest. Lectures will be designed and discussed within the classroom format and will be implemented during the semester. Each student teaching activity will be observed by the instructor or videotaped for review along with detailed feedback of their teaching session. This course will be focused on the application and practice of teaching social workers and the activities this entails.

Leadership Development Series

- **SWCL 811: Leadership Lab (3 credits)**
This course is designed to assist students in developing a personal philosophy and approach to leadership. The course will introduce historical and current theories on leadership, reflect on the various contexts in which leadership skills are exercised and consider leadership practices in multicultural environments. While there are many models of leadership development and practice, there is growing concern that we are amid a leadership crisis: the need and intensity for health and human services is increasing while leadership talent is declining. The health and performance of the human services sector depends upon equitably equipping potential, emerging, and current leaders with relevant, meaningful, and impactful leadership skills. This course will align and interconnect leadership theory and development with leadership practice in the real world at the individual, relational and collective, and organizational levels.

Supervision Methods Series

- **SWCL 805: Supervision and Mentoring (3 credits)**
This course will explore the principles, structures and practice of supervision, consultation, and

mentoring in Clinical Social Work across the continuum of professional development. Students will explore a variety of supervisory approaches and the theoretical concepts underlying these approaches while learning how to integrate these styles in their work with students and supervisees. Models of individual and small group supervision will be demonstrated, practiced and discussed in detail. Issues of how to teach and mentor supervisees within a community setting will be discussed. Simulation of clinical supervision with standardized clients across academic and community settings will be employed by students as they discover their preferred approaches to supervision. Students will use exercises on self-awareness, reflective supervision, and learn to employ JEDI principles introduced in the introductory intensive weeklong course on the same topic.

- **SWCL 810: Supervision Mentoring Lab (3 credits)**

This second supervision course will be a practicum experience for DSW students. Students will be assigned to supervise a group of social work students working within their field placement. A second option will be for DSW students to use their employment environment to employ their supervision strategies. The goal is for students to apply their learning with actual social work trainees/workers, present these experiences to the group, obtain feedback to improve this supervisory experience. At least one supervision session will be videotaped for discussion and evaluation.

Justice Equity, Diversity, and Inclusion Series

- **SWCL 806: Equity, Diversity and Inclusion (2 credits)**

In this weeklong intensive course, students will experientially engage with values, principles, concepts, and frameworks that facilitate justice-oriented, equitable, inclusive practice which recognizes the diversity in experiences and identities among the individuals and communities we work alongside. This will include a deep analysis of the impact of ideologies that sustain racism and other forms of oppression, how these *isms* manifest and endure, and how they impact individuals living within systems of power and privilege across micro and macro levels. Students will be introduced to the Social Change Ecosystem (Iyer, 2017), utilizing this framework to analyze the ways in which they can organize for lasting social change within their own sphere of practice in an effort to create a more equitable and just society. They will also engage with anti-racist anti-oppressive (ARAO) lenses, intersectionality, and Restorative Practices as approaches to clinical work in line with JEDI values. This will include examination of the clinical discourse on both conscious and unconscious bias, self-awareness, awareness of privilege, identity formation, the role of advocacy and a justice orientation in clinical work, and affirming, culturally responsive practice. At the culmination of the course, students will develop an ARAO vision for their practice, creating a plan, statement, or vision board, articulating their own JEDI-oriented values and goals that will serve as an anchor and guide throughout the DSW program.

Research Methods Series

- **SWCL 802: Philosophy of Science in Social Work (3 credits)**

This course examines the assumptions, history, and development of scientific methods within social work. The course will cover methods of scientific inquiry and how knowledge is

accumulated and validated. Students will explore how theory is constructed and its importance in explaining and predicting behavior. The course provides an in-depth exploration of ontological and epistemological foundations within social work and behavioral sciences. Discussion of theory development and construction along with methodological approaches to testing theory will be explored. Students will discuss important controversies within the field of philosophy of science, the role of values in research and methodological strategies along with the limitations of measurements used in the social sciences. The course will identify and evaluate the building blocks of social science - definitions and concept-formation, descriptive strategies, traditions of interpretation, measurement of variables, strategies of inference, ethics and Forms of explanation of findings.

- **SWCL 807: Summer Weeklong Intensive Seminar Series Year 2: Publication and Grant Writing Lab (2 credits)**

This weeklong workshop will provide students with the necessary information to outline and write a publishable paper, including the selection of a topic, target audience, and appropriate journal. Students will develop skills in organizing content and preparing for the review process. Emphasis will be placed on the development of a literature review for publication in one's area of expertise/interest. Each student will be required to start or complete a paper that expands on work done for a practice course or that reflects their interest and supports the student's clinical practice and/or Capstone project (e.g., a traditional case study or a single system design study).

- **SWCL 814: Research Methods: Quantitative Approaches in Clinical Social Work Practice Settings (3 credits)**

The purpose of this course is to cover the essential concepts of quantitative research methods. This course will focus on research ethics, building a conceptual framework, question and hypothesis formulation, research design, sampling, level of measurement for variables and scale construction. Students will learn how to design research related to social work practice. The course will review the selection and development of outcome measures, intervention manuals, and fidelity measures as appropriate. It will closely examine the use and development of practice guidelines, evidence-based practice, and meta-analytic procedures. Each student will identify a substantive research area related to clinical practice and logical steps toward formulating key research questions. Aspects of conducting literature reviews leading to the articulation of a substantive research area will be taught.

- **SWCL 819: Research Methods: Qualitative Approaches in Clinical Social Work Practice Settings (3 credits)**

This course will provide an overview of six types of qualitative research approaches widely used in social work inquiry: 1) content analysis, 2) template analyses, 3) grounded theory, 4) participatory action research, 5) Indigenous and decolonizing methods and 6) immersion approaches. These methods illustrate key differences in research purposes, epistemologies, ethics, and methods. In general, the course will provide an exploration of foundational qualitative research methods and strategies. Students will be introduced to ontological, epistemological structures and theoretical assumptions underlying these methods. Students will learn how appropriately apply these methods with particular emphasis on use within the

clinical setting. Students will learn how to both acknowledge and document the lived experience of participants.

Capstone Project Series:

- **SWCL 815: Summer Weeklong Intensive Seminar Series Year 3: Capstone Development Lab. (2 credits)**
This course is focused on developing an idea for their final capstone project. This pro-seminar will encourage students to discuss, research and present their proposals for the capstone project. The instructor will provide instruction and consultation to each student around their area of interest and assist them to formulate a project that is clearly defined and doable within the period allocated. By the end of this seminar, students are expected to have a solid draft of their proposal.
- **SWCL 816: Capstone Project Seminar (3 credits)**
This second seminar will be dedicated to the refinement and submission of their capstone proposal and the initiation of their proposed project including clear documentation of goals and objectives, procedures and methods, expected outcomes, and timeline for completing the project. Each proposal will be presented to the class who will provide feedback and suggestions.
- **SWCL 820: Capstone Project Seminar (3 credits)**
This seminar is the culmination of the capstone project and a student's last step before being certified for graduation. The first half of the class will be dedicated to assisting students to complete and write up their capstone project. The second half of the class each student will make a formal presentation of their project along with comments about their struggles, learning, and future directions of this interest. These presentations along with the student's defense of their findings and/or accomplishments will be graded (pass/fail)

5. Discuss how general education requirements will be met, if applicable.

There are no general educational requirements necessary for this doctorate degree. All courses are at the graduate level and assume all general educational requirements have been met and are reflected in their undergraduate transcripts.

6. Identify any specialized accreditation or graduate certification requirements for this program and its students.

The Council on Social Work Education (CSWE) is the accrediting body for social work programs. Due to the relative newness of DSW programs, CSWE only recently (June 2020) drafted and is now actively piloting these guidelines. We have consulted with CSWE and incorporated these draft guidelines within our proposal. We will seek accreditation when CSWE formally adopts accreditation standards and establishes an accreditation process for DSW programs. Our program of study is in line with the proposed national guidelines.

7. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

This is not applicable to the present degree program.

8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

The SSW maintains up-to-date information of its degree programs on its' website (<https://www.ssw.umaryland.edu>). Once approved, the DSW curriculum will be made available on the SSW web page. As with other educational programs, we will list information on the DSW curriculum, course descriptions, degree requirements, and cost of education. The website also has links to information about the learning management system, support services, and financial aid. We affirm that the same information will be available for prospective and existing students in the proposed DSW in social work.

9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The SSW affirms that all advertising, recruiting and admissions materials will accurately represent the DSW in Clinical Social Work.

H. Adequacy of Articulation

1. If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.

There are no articulation agreements related to this program.

I. Adequacy of Faculty Resources

1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

The following full-time and adjunct faculty are eligible to teach in our proposed DSW curriculum. In addition, the weekend structure of the DSW program will not compete with instructional support with the MSW program and allow us to contract with national experts to provide instruction for our doctoral students as appropriate. This table documents the vast amount of clinical and teaching experience our world class faculty possess. The list of courses next to a faculty member's name indicates their qualification to teach this content.

Faculty member	Title and Appointment	Status	Terminal Degree	Field of Study	Courses Qualified to teach (by course number)
Edward Pecukonis	Professor and DSW Director	Full time Tenured	Ph.D.	Social Work	SWCL: 804, 807, 809, 812, 815, 820, 816, 821, 818
Samantha Fuld	Assistant Professor	Full time Non- Tenured	DSW	Social Work	SWCL: 800, 809, 812, 806, 815, 820, 816, 818
Geoff Grief	Professor	Full time Tenured	Ph.D.	Social Work	SWCL: 813, 817, 815, 820, 816, 818
Bruce DeForge	Associate Professor	Full time Tenured	Ph.D.	Sociology	SWCL: 807, 814, 819, 802
Karen Hopkins	Professor	Full time Tenured	Ph.D.	Social Work	SWCL: 811
Megan Meyers	Associate Professor	Full time Tenured	Ph.D.	Social Work	SWCL: 811
Paul Sacco	Associate Professor	Full time Tenured	Ph.D.	Social Work	SWCL: 814, 819
Joan Pittman	Clinical Associate Professor	Full time Non- Tenured	Ph.D.	Social Work	SWCL: 805, 810, 815, 820, 816
Neijma Celestine-Donnor	Associate Dean for DEI and Clinical Instructor	Full time Non- Tenured	JD	Social Work/ Law	SWCL: 806
Peter Smith	Clinical Instructor	Part Time Non- Tenured	Ph.D.	Social Work	SWCL: 804, 818
Jeff Singer	Adjunct III	Part time Adjunct	MSW	Social Work	SWCL: 802
Mellisa Edmondson-Smith	Associate Professor	Full time Tenured	Ph.D.	Social Work	SWCL:815, 820, 816, 818
Erika Lewis	Assistant Professor	Full time Tenure track	Ph.D.	Social Work	SWCL: 806, 804, 809, 812, 815, 820, 816, 821, 818

Faculty TB hired	Associate or Professor	Full time Non- Tenured	SWCL	Social Work	SWCL: 801
Faculty TB hired	Associate or Professor	Full time Non- Tenured	SWCL	Social Work	SWCL: 803

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced based best practices.

The SSW has a structured process for training teaching faculty and ensuring effective instruction occurs in the classroom that is responsive to student need and interest. Educational activities at this training level are competency-based and involve student/trainee involvement at all levels. The SSW will establish a curriculum committee for the DSW program consisting of fully elected faculty and staff along with two student representatives. This committee will provide guidance to the administration and input to course offerings and andragogy.

The SSW and the UMB campus use the Blackboard Learning Management System for both online and in-person courses. Blackboard is a comprehensive learning management system that houses all course content provides a platform for discussion and live collaboration and teaching via zoom, voice thread and blackboard collaborate. All lectures are posted on Blackboard via voice thread software and made available to students at their convenience.

Based on Quality Matters standards, UMB promotes use of a rubric which details the best practices for classroom and distance education; this rubric helps faculty, and instructional designers create the courses; assesses the readiness of the course and ensures that all courses are instructionally and pedagogically sound. The best practices are a synthesis of strategies coordinated by the SSW Idea team and reflect best practices for higher education that include:

- Course overview, introduction of course material to the students along with classroom management approaches
- Course organization and design using simulation and standardized clients
- Learning Objectives (competencies) that are clear, objective and measurable
- Instructional Materials including the selection of manualized approaches
- Learner Communication, Interaction and Collaboration
- Assessment and Evaluation (measurement) to assure student competence and readiness for practice
- Course Technology
- Learner Support offered by both the SSW and campus

J. Adequacy of Library Resources

1. Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.

University of Maryland Health Sciences and Human Services Library (HSHSL)

The University of Maryland Health Sciences and Human Services Library (HSHSL) serves as a hub for collaboration and learning on the UMB campus and is one of the largest health sciences libraries in the United States both physically and by collection size. Opened in 1998, the HSHSL building is fully equipped with Wi-Fi and has seating for over 900 users including 41 group study rooms, three computer classrooms, an Innovation Space that includes 3D printers, a presentation and production studio, art gallery, and technology-enhanced meeting and collaboration spaces. The HSHSL website (www.hshsl.umaryland.edu) provides access to a range of resources and services.

The library provides access to 108 databases, 4,737 e-journals, 17,669 e-books, and maintains a collection of 144,416 print books and 7,586 archival print journals. Through the library's interlibrary loan and document delivery services, faculty, staff, and students may acquire articles and other resources not available through the library's collections. The HSHSL also provides access to the UMB Digital Archive, an open access university repository hosting university created research including white papers, research posters, and more.

The HSHSL has a track record of innovative and user-centered services. With a team of 26 faculty librarians and 28 library staff, the HSHSL serves UMB's 6,900 students and over 8,000 faculty and staff members in the schools of dentistry, medicine, nursing, pharmacy, social work, and graduate studies. The library also provides access and services to the University of Maryland Medical Center (UMMC) and other affiliated institutions. The library's suite of research services is available for all programs on campus, and includes research and publication strategy consultations, systematic review and expert literature searching services, research impact assessment, public access policy compliance review, and other research services as requested. The library's Center for Data and Bioinformation Services offers consultations and workshops on data access, management, and sharing, as well as support for bioinformatics research, including information on high throughput sequence analysis, DNA, RNA, protein data resources, and research computing.

The HSHSL is home to the National Network of Libraries of Medicine (NNLM) Region 1, an outreach program of the National Library of Medicine, whose mission is to advance the progress of medicine and improve public health and access to health information. The HSHSL has held this competitive and prestigious grant funded designation for over 35 years. In 2021, the HSHSL was also selected to host the NNLM Network Web Services Office (NWSO), which develops and maintains web services for all seven NNLM Regions and other NNLM centers. Through its outreach programming the NNLM Region 1 and the HSHSL regularly reach over 3,000 community members and unaffiliated groups through free workshops, exhibits, and presentations on topics including health literacy, data management, and citizen science.

K. Adequacy of Physical Facilities, Infrastructure, and Instructional Equipment

1. Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences.

UMB, located on 65 acres in downtown Baltimore is comprised of six professional schools - Social Work, Medicine, Nursing, Dentistry, Pharmacy, Law, and an interdisciplinary Graduate School. In combination, the schools enroll approximately 6,667 students. Also located on campus is the

UMMC that provides physical and mental health services to city residents, particularly individuals who live in West Baltimore. The Health Sciences Library, completed in 2000, is a state-of-the-art regional medical library center with a fully computerized management information system and computerized information retrieval and distance education systems.

The SSW has grown to become one of the ten largest schools of social work in the country. Currently ranked 24 by *U.S. News & World Report* (2024), the SSW is part of a vibrant community and a thriving professional school campus. The SSW has been ranked as high as 5th in the nation in publication productivity (Ligon & Thyer, 2001). The MSW program has produced more than 350 graduates per year. In collaboration with other professional schools, the SSW offers dual-degree programs in Public Health, Law, Jewish Studies, and Business Administration.

UMB is currently designing a **new 127,000 square foot facility for the School of Social Work in downtown Baltimore**. The \$121M project will consolidate all programs into one building and it will be the most sustainable building on the UMB campus incorporating biophilic design, photovoltaic panels, and a minimal carbon footprint. The building is comprised of over 14,000 square feet of classroom and instructional spaces, media labs, and simulation rooms. The building design includes a prayer space, a lactation room, various lounges, and informal learning spaces to support the school of social work community. Construction is anticipated to begin in December 2024, and the anticipated completion date is August 2027.

The MSW program offers courses off campus, serving the Eastern Shore, Cumberland - a community in Western Maryland, and Shady Grove- a suburb accessible to Washington DC, south-central Maryland, and Northern Virginia. The SSW has over 300 field placement sites. Although concentrated in the Baltimore/Washington metropolitan area, which is rich in health facilities and health advocacy and policy organizations, placements are available in the rural areas of the Eastern Shore, Western Maryland, and South-Central Pennsylvania. Specialized MCH placements for Advanced Curriculum students include, the MCH Services Cluster at University of Maryland Medical Systems (UMMS), the UMMS Maternal and Pediatric AIDS Clinic; the Adolescent AIDS Clinic at the Johns Hopkins Hospital, Kennedy-Krieger Institute; varied pediatric services of the National Institutes of Health; the National Children's Medical Center, Washington, D.C.; a public school for pregnant and parenting teens; Women's and Children's Services at Sinai Hospital; the Child Development Center at Georgetown University Medical Center; an innovative prenatal service for Spanish-speaking women; and other settings.

Within the School of Social Work there are additional services including:

- **Social Work Informatics:** The Informatics Office is one of the core sources of support at the SSW. The staff uses a wide range of audio, video, and computer technology to facilitate and enhance the learning environment. The SSW has a variety of servers and operating systems as well as the capacity to create virtual servers to respond to academic, administrative, and research requirements.
- **Computer Services:** Computer Services maintain servers and other computers that run Microsoft and Apple operating systems.

- **SSW Network:** The network is state of the art, utilizing Cisco equipment for wired, wireless (Wireless “G” 54mbps), and voice-over IP (VOIP) network capacity. The campus central computing network team manages it to ensure the highest level of network security and reliability.
- **Computer Center:** The computer lab includes 35 Windows PCs with the latest versions of Microsoft Office Premium (Access, Excel, PowerPoint, Publisher, and Word), SPSS, NVivo, & Antivirus Protection Software. All computers have access to the HSHSL library and other campus resources. Three High-Speed Network-connected Duplex laser printers, a network Document Scanner with Automatic Document Feeders, and copiers round out the equipment available to students.
- **Computer Training Classroom:** We have 41 Windows PCs with the latest versions of Microsoft Office Premium (Access, Excel, PowerPoint, Publisher, and Word), SPSS, NVivo, & Antivirus Protection Software. All computers have access to the HSHSL library and other campus resources. The instructor’s computer is connected to a digital projector.
- **Media Center:** The Media Center at the SSW is an 800-square foot studio with broadcast-quality digital and analog media production studio designed to fulfill the presentation needs of students, faculty, and staff. This office makes available to the SSW community, at no or reduced fee, equipment, and resources to facilitate the production and presentation of A/V projects. Available equipment includes camcorders; tripods; data projection for electronic presentation; audiocassette recorders; slide projectors; and overhead projectors. Available services include videotaping, videotape editing, tape duplication, audio & video conferencing, closed circuit interview/observation, and event production.
- **SSW Classrooms:** Every conference and classroom in the school is equipped with computers (Apple MacBook’s Pro’s capable of running the MAC or Windows operating system), digital projectors, screens, and network connections. Additional equipment (document cameras, videoconferencing gear, etc.) can be brought into the rooms as desired.
- **SSW Auditorium:** The SSW maintains a state-of-the-art 170-seat auditorium equipped with computer, document camera, DVD & VHS playback, audio reinforcement, videoconferencing, and content capture/broadcast capabilities.
- **Videoconferencing Capabilities:** The SSW has built-in portable videoconferencing equipment that can be moved to any room. The equipment supports H.323 IP-based video conferencing and desktop-based conferencing using such applications as Collaborate, Skype, and Zoom.
- **SSW Sponsored Projects Office:** The office offers administrative and financial management services to the SSW faculty, staff, and students. The Director, Research Administrator, and Research Coordinators have many years of pre- and post-award administrative and financial experience. In addition, the Assistant Director, accountants, and accounting specialists provide financial expertise and assistance, assuring that structures are in place to pay employees correctly, to monitor time and effort reporting, to review

expenditures of grant and gift funds, and to provide grant reports to funders. The office works closely with UMB's Office of Research & Development, Sponsored Programs Administration (SPA), Sponsored Projects Accounting and Compliance (SPAC), and the UMB Foundation, Inc., to maintain compliance with policies and procedures.

SSW Centers and Programs include:

- **The Family-Informed Trauma Treatment (FITT) Center:** (Kathryn Collins, MSW, PhD), funded by the Substance Abuse Mental Health Services Agency (SAMHSA), develops, implements, evaluates, and disseminates theoretically sound, family-based interventions for underserved urban and military populations.
- **National Child Welfare Workforce Institute:** (NCWWI, Nancy Dickinson, MSSW, PhD), funded by the Research Foundation of SUNY Albany and ACF, Children's Bureau, aims to increase child welfare practice effectiveness through diverse partnerships that focus on workforce systems development, organizational interventions, and change leadership, using data-driven capacity building, education and professional development.
- **Screening, Brief Intervention and Referral for Treatment (SBIRT):** (Paul Sacco, PhD) is a SAMHSA-funded project focused on developing curriculum and teaching social work students and field instructors about the evidence supported SBIRT intervention. The SBIRT Project combines stand-alone coursework with curricular infusion models to train a plurality of MSW-level social work students. The distal goal of the SBIRT Project is the uptake of this approach among social work students and field instructors.
- **Behavioral Health Workforce Integration, Service, and Education:** (BHWISE) Fellows (Paul Sacco, PhD), funded by HRSA, is a workforce development project aimed at training social work students for practice in the area of integrated behavioral health with children, adolescents, and transitional age youth.
- **University of Maryland Quality Care Network:** UMQCN (Michele Beaulieu, MSW, LCSW-C), UMSSW clinical social workers participate in two population health programs of the University of Maryland Health System.
- **Maryland Longitudinal Data System:** The MLDS Center (PI: Angela Henneberger, PhD) is a state-wide longitudinal data system that brings together PreK-12, postsecondary, and workforce data to inform education and employment policy, programming, and practice.
- **Adult Services: Policy & Practice Initiative, and Competency-Based Pre-Service and In-Service Training for Adult Services' Staff:** APS (Joan Davitt, PhD), The SSW has partnered with the Maryland Department of Human Services, Office of Adult Services to provide quality training for Adult Service staff members at local departments of social services.
- **The Ruth H. Young (RYC) Center for Families and Children** has a mission to promote the safety, permanence, stability, and well-being of children, youth, and families in their

communities through education and training, research and evaluation, and best-practice community service programs.

- **The Social Work Community Outreach Service (SWCOS):** (Wendy Shaia, EdD, MSW) develops, implements, and evaluates models of effective outreach and community-based services for underserved individuals, families, and communities in Baltimore and Maryland. SWCOS offers social work services for individuals, couples, families, and community-based organizations.
- **The Office of Continuing Professional Education (CPE):** (Seante Hatcher, MSW). is the premier source for advancing the knowledge base of post-graduate social workers. Created in 1992, to meet the demands of new licensing regulations, CPE has grown to become the second largest Social Work Continuing Education Program in the Nation.
- **Promise Heights:** Promise Heights is a collaborative effort to strengthen a West Baltimore neighborhood by offering services from cradle to college or career. The program is a cornerstone of the federal approach to working in poor communities in a way that is designed to be interdisciplinary, coordinated, place based, and data and results driven. In Upton/Druid Heights, a neighborhood near UMB, about half of the families live in poverty, according to Baltimore City Health Department data. Promise Heights was the recipient of UMB's 2012 Dr. Martin Luther King Jr. Diversity Recognition Awards.
- **The Institute for Innovation and Implementation** serves as a training, technical assistance, evaluation, policy, systems design, and finance center for children's behavioral health systems. The Institute supports state and local governments and organizations to implement effective systems and practices that are designed to best meet the needs of children and youth with complex behavioral health challenges and their families.

2. Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to:

All students and faculty have 24/7 access to email (outlook), library and our online learning platform Black Board. Training modules for these platforms are available online and maintained by the SSW informatics office.

- **The Informatics Office** is one of the core sources of support at UMB SSW. The staff maintains the audio, video, and computer technology equipment that supports the learning and research environments of the school. The Informatics Office consists of the Computer Center, the Computer Training Classroom, computer services, IT services, and the Media Center. The Informatics staff are present to support the technology needs of the SSW and will be available during all scheduled online course times. The IDEA Team is the other core source of support at the UMB SSW. The team provides services and support in instructional design, e-Learning, assessments, and online learning technologies for faculty, staff, and students.

- **Student Tech Support:** SSW students benefit from support at multiple levels: campus helpdesk (for login issues, email, Zoom, etc.), SSW Informatics (for office 365 applications, specialized software such as SAS, Stata, SPSS), and the IDEA Team (for Blackboard and other academic technology issues). All three of these entities also provide 24/7 access to web-based help pages, tutorials, and step-by-step documentation for students. Each of these support services provide access via email and telephone and can troubleshoot with screen sharing.
- **Faculty Tech Support:** SSW faculty benefit from support at multiple levels: campus helpdesk (for login issues, email, Zoom, etc.), SSW Informatics (for office 365 applications, specialized software such as SAS, Stata, SPSS), and the IDEA Team (for Blackboard and other academic technology issues). All three of these entities also provide 24/7 access to web-based help pages, tutorials, and step-by-step documentation for students. Each of these support services provide access via email and telephone and can troubleshoot with screen sharing. Faculty additionally have support from online orientations, newsletters, and individualized support from the IDEA Team.
- **Staff Tech Support:** SSW staff benefit from support at multiple levels: campus helpdesk (for login issues, email, Zoom, etc.), SSW Informatics (for office 365 applications, specialized software such as SAS, Stata, SPSS), and the IDEA Team (for Blackboard and other academic technology issues). All three of these entities also provide 24/7 access to web-based help pages, tutorials, and step-by-step documentation for students. Each of these support services provide access via email and telephone and can troubleshoot with screen sharing. Staff additionally have support from online orientations and newsletters from the IDEA Team.
- **Student Assistive Technology Access:** SSW students have access to Kurzweil screen reading software as well as Blackboard Ally, which provides alternative format downloads including audio, braille, optical character recognition, and automated language translations. Students have access to alternate textbooks and course materials, including in electronic or enlarged format. In addition, all courses will include live transcription which will be available to students.
- **Faculty and Staff Assistive Technology Access:** SSW faculty and staff have access to Kurzweil screen reading software as well as Blackboard Ally, which provides alternative format downloads including audio, braille, optical character recognition, and automated language translations.

L. Adequacy of Financial Resources with Documentation

1. Complete **Table 1: Resources and Narrative Rationale**. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.

Table 1: Program Resources:

Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated Funds	\$596,495	\$652,854	\$140,000*	\$0	\$0
2. Tuition/Fee Revenue (c + g)	\$0	\$249,000	\$564,300	\$872,100	\$923,400
a. Number of F/T Students	0	15	33	51	54
b. Annual Tuition/Fee Rate	\$0	\$16,600	\$17,100	\$17,100	\$17,100
c. Total F/T Revenue (a x b)	\$0	\$249,000	\$564,300	\$872,100	\$923,400
d. Number of P/T Students	0	0	0	0	0
e. Credit Hour Rate	\$0	\$830	\$855	\$855	\$855
f. Annual credit hours	0	6	6	6	6
g. Total P/T Revenue (d x e x f)	\$0	\$0	\$0	\$0	\$0
3. Grants, Contracts & Other External Sources	\$0	\$0	\$0	\$0	\$0
4. Other Sources	\$0	\$0	\$0	\$0	\$0
TOTAL (ADD 1 - 4)	\$596,495	\$901,854	\$704,300	\$872,100	\$923,400

**Carry over funds from excess in year two (2)*

UMB policies allow each school on the campus to have substantial autonomy over budget development and administration. Income to fund the new DSW program will come from two sources. The first source is tuition and fees. The second source is from the Office of the President at UMB, which is providing financial start up resources for the first two years of the DSW program. In addition, the SSW maintains a reserve fund to ensure continuity across school programs.

Table 1 lists the program resources for year one through five for the proposed DSW. As can be seen in Table 1, reallocated funds total \$1.2 million dollars designated for startup costs across year 1 FY2026 and year 2 FY2027 of the proposed project. The UMB campus administration will provide these reallocated funds in support of the DSW program at the SSW. This funding source is available to all professional schools on campus and is given to support curriculum innovation and new educational programs viewed as important. This allocation will not impact any existing educational programs on campus or within the SSW. Proposed tuition for the DSW is competitive at \$830 per credit hour and is comparable to DSW programs in the Mid-Atlantic region. We anticipate students to enroll full-time only, so no part-time enrollment was included on the budget chart. All students are strongly encouraged to be employed as a Social Worker throughout their matriculation. The FY2026 budget is dedicated to the marketing and development of curriculum, recruitment of students, and hiring designated staff and faculty. The first cohort of 15 students will begin in September of FY2026. Beginning in year two of the program, we project enrollment will increase to 18 students per year and remain in effect thereafter. We anticipate the first cohort of 15 students will graduate in FY 2029. We project a modest budget increase of 3% per year for tuition. Total

projected income for year one through year five is robust and we anticipate covering and exceeding projected costs for the program. To cover the potential short fall of funds for FY2027, we will reallocate and carry forward funds from FY2026 of \$140,000 to Year 3. Given the contributions by the campus in year 2 (FY2026) of \$652,854 plus the projected tuition income of \$249,000 results in \$901,854. This final sum will cover the costs of year 2 (\$692,082) and allow for the \$140,000 to be carried forward to year 3. With the addition of more trainees, year 4 and 5 tuition projections will fund program costs.

2. Complete Table 2: Program Expenditures and Narrative Rationale. Provide projected finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

Table 2 Program Expenditures

Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	\$394,128	\$516,383	\$531,874	\$547,830	\$564,266
a. # FTE	2.4	3.6	3.6	3.6	3.6
b. Total Faculty Salaries	\$306,000	\$405,965	\$418,144	\$430,688	\$443,609
c. Total Benefits	\$88,128	\$110,418	\$113,730	\$117,142	\$120,657
2. Administrative (b + c below)	\$100,224	\$103,231	\$106,328	\$109,518	\$112,804
a. # FTE	1	1	1	1	1
b. Total Salary	\$72,000	\$74,160	\$76,385	\$78,677	\$81,037
c. Total Benefits	\$28,224	\$29,071	\$29,943	\$30,841	\$31,767
3. Support Staff (b + c below)	\$26,668	\$27,468	\$28,292	\$29,142	\$30,016
a. # FTE	0.2	0.2	0.2	0.2	0.2
b. Total Salary	\$19,158	\$19,733	\$20,325	\$20,935	\$21,563
c. Total Benefits	\$7,510	\$7,735	\$7,967	\$8,207	\$8,453
4. Equipment	\$6,000	\$0	\$0	\$0	\$0
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$35,000	\$45,000	\$17,500	\$17,500	\$17,500
Program Marketing costs	\$10,000	\$5,000	\$2,500	\$2,500	\$2,500

Travel for conferences etc.	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Standardized Clients for training	\$0	\$10,000	\$10,000	\$10,000	\$10,000
Consultant Cost for program development	\$20,000	\$25,000	\$0	\$0	\$0
TOTAL (ADD 1 - 7)	\$562,020	\$692,082	\$683,994	\$703,990	\$724,586

Table 2 lists projected expenditures for the proposed DSW program through year five. Salary rates for faculty are determined by the school’s administration and are representative of full-time social work faculty/staff positions at peer institutions such as Rutgers University School of Social Work. Fringe benefits are included for faculty at the rate of 28.8% with a 3% COLA included per year. Fringe benefits are calculated for staff at 39.2%. These are projections and may not reflect the budgetary restrictions of the SSW and/or campus allocations and do not guarantee these increases. Salaries include the Director’s position (12 months), and assistant director non-tenured faculty member. This budget also designates funds to pay adjunct faculty and full-time faculty of the SSW that are eligible to teach within the DSW program. One .20 FTE position for a research methodologist is also included to coordinate program evaluation, instruction/ coordination of the research sequence and administering the qualifying exam. A post-doctoral DSW fellow will also be recruited to teach and supervise trainees within the program. This fellow will provide valuable services to the program while learning how to instruct and supervise doctoral students. Funds are also designated to hire a full-time DSW program manager that will coordinate all strategic scheduling and management of student recruitment, enrollment, matriculation, and graduation. A .20 FTE is allocated for a staff member from the SSW “Idea Team” to assist in building curriculum for the DSW courses. This team is experienced in curriculum development and andragogy. Since standardized clients will be a component of clinical training, funds are allocated for the recruitment, training, and payment of these skilled actors. A concerted effort will also be made to market this program creatively within the state of Maryland. These marketing funds will pay for our recruitment literature and handouts, web page design, information sessions, mailings, and other activities that will help inform and recruit interested applicants. To help ensure the success of the program, funds to hire an experienced consultant to assist Dr. Pecukonis in developing a successful program is noted. A consultant with experience running a DSW program will be identified and recruited from a peer institution i.e., Rutgers University School of Social Work DSW program. This consultant cost is only for the first two years of the project. Finally, funds are designated for the Director and Assistant Director for travel to national conferences focused on DSW education and the purchase of several laptop computers.

M. Adequacy of Provisions for Evaluation of Program

1. Discuss procedures for evaluating courses, faculty and student learning outcomes.

Student learning outcomes for all dimensions of the DSW curriculum will be operationalized and assessed using exams, observational rubrics, and other objective measures. The overall goal of this assessment process is to make certain that our curriculum is preparing students for the workforce. Student learning will be assessed by each course instructor at prescribed intervals during a 15-week semester. Course outcomes and student performance will be evaluated by the DSW faculty at the

completion of each semester for each course offered. These evaluations will include both student and faculty assessment. In this manner, the attainment of goals and objectives for each course will be evaluated. This feedback will be used to create a process of continuous quality improvement for the DSW curriculum. When needed, modifications in the form of curriculum content, methods of instruction, course structure will be implemented. Student feedback for each course and instructor will be collected and used to improve the curriculum through an online anonymous survey. These findings will be distributed to faculty teaching in the DSW program for review, discussion and problem solving. One elected student representative from each cohort year will participate in these meetings. This entire process will be managed by the DSW program director to ensure program improvements are being implemented.

2. Explain how the institution will evaluate the proposed programs' educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.

The instructor will receive the course evaluations completed by the students enrolled in their course. These reports will be reviewed by the Dean and DSW director as part of the faculty member's annual performance review, and performance improvement plans will be developed if indicated. The DSW program director may conduct additional surveys and focus groups with students to gather feedback about the instruction, curriculum, and the program.

Each year the DSW program will conduct an online survey of alumni, and their employers to collect information about preparedness of graduates for the workforce, curricular elements that have been most impactful, and curricular elements that should be emphasized or eliminated. Alumni will be surveyed on their employment, salary, promotions, and professional activities and leadership accomplishments.

N. Consistency with the State's Minority Student Achievement Goals

1. Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

UMB is deeply committed to fostering equity, diversity, and inclusion across all programs, with a strong focus on recruiting and retaining underrepresented minority students. Recruitment efforts for the DSW program in Clinical Social Work will prioritize outreach to minority students, complemented by targeted support programs to ensure their success. The SSW Office of Student Affairs will coordinate services such as tutoring, counseling, and referrals tailored to student needs.

In alignment with the school's mission, the Office of Diversity, Equity, and Inclusion (ODEI) provides strategic leadership to create an inclusive and equitable environment. ODEI spearheads initiatives centered on social justice, anti-racism, racial healing, and cultural humility while offering training, consultation, and ongoing assessment to strengthen diversity efforts. Additionally, the school supports students through active organizations like the Alliance of Anti-Racist Social Work Practitioners, Queer Community Alliance, and Latinx Unidos for Community Healing and Awareness. These groups foster cultural awareness, social justice, and community building, enriching the overall student experience and promoting an inclusive campus culture.

The school is committed to fostering an inclusive, diverse, equitable, and anti-racist environment and outlined strategic priorities which include enhancing campus climate and belonging by establishing a new DEI office, creating affinity spaces, and strengthening collaboration with the Shady Grove campus, alumni, and community members. The school also aims to improve accountability and transparency by implementing systems for data collection, administering climate surveys, and increasing the visibility of DEI initiatives. Efforts to promote equity and access focus on developing a DEI framework for recruitment and hiring, providing equity training, and supporting inclusive spaces and field education practices. Additionally, the school is advancing learning and professional development through training on anti-racism, restorative practices, and gender identity awareness; expanding field placement opportunities; and integrating equity into curricula and pedagogy. These initiatives reflect the school's mission to promote social justice and equip future social workers to serve diverse communities effectively.

O. Relationship to Low Productivity Programs Identified by the Commission

1. If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.

The proposed DSW is not directly related to an identified low productivity program identified by the Maryland Higher Education Commission.

P. Adequacy of Distance Education Programs

1. Provide affirmation and any appropriate evidence that the institution is eligible to provide distance education.

This program is designed to be in-person. That said, all online learning at the SSW is appropriate to the university's mission, is well-resourced, incorporated into our systems of governance and oversight and is comparable in rigor to traditional instructional formats and is evaluated regularly. In addition, students and faculty are provided with effective support to ensure student learning outcomes are met. Recently, a full-time fully online MSW program was approved by our accreditation body CSWE, which certifies the SSW as capable of providing comprehensive online education in terms of curriculum and resources for faculty and students. The SSW is well-endowed with training and support services managing their online offerings, and there are further resources on campus through the Faculty Center for Teaching and Learning which serves the university broadly.

2. Provide assurance and any appropriate evidence that the institution complies with the C-RAC guidelines, particularly as it relates to the proposed program.

UMB is committed to complying with guidelines for the evaluation of distance education set forth by the Council of Regional Accrediting Commissions (C-RAC).

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Market Pulsecheck



An evaluation of employer demand for graduates from the proposed doctoral-level social work program in Maryland and student demand for similar programs.

Analysis Includes:

- Job Posting Trends
- Top Skills
- Top Employers
- Top Industries
- Education Levels
- Degree Completion Trends

The analysis considered demand in Maryland.

Options for Next Steps

Following this analysis, the requesting partner can:

- Choose to discontinue the research, if the leadership is able to make a decision based on this analysis and other institutional research.
- Continue the analysis. A final report of the continued research will address credential design and curricular recommendations.

Growing Labor Market and UMB's Market Position Suggests Favorable Program Opportunity

Preliminary Program Outlook

Employer demand trends suggest a moderate but growing need for doctoral-level social work professionals. In the past 12 months, regional employers advertised a moderate number of relevant job postings (i.e., 980 postings). Between December 2018 and November 2021, average monthly growth in employer demand for doctoral-level social work professionals (i.e., 4.51%) outpaced that of all doctoral professionals (i.e., 1.59%) in Maryland. Further, regional employment in all five most relevant occupations is projected to grow faster than the average for all occupations over the next 10 years. Taken together, these trends suggest a favorable and growing labor market for relevant professionals.

Regional degree completion data suggests relatively consistent student demand and competition in the state. Between the 2015-16 and 2019-20 academic years, relevant completions fluctuated, resulting in an overall decrease of two. Over the same period, the number of institutions reporting relevant completions remained constant (i.e., two). Together, these trends suggest a fairly consistent competitive landscape in Maryland.

The University of Maryland, Baltimore is positioned as the regional market leader. Although relevant completions declined over the profiled period, the University of Maryland, Baltimore increased both the number of relevant completions reported and market share. This indicates that the University of Maryland, Baltimore's program performed well in the market and could indicate potential for further growth. Further, the established doctoral-level social work program may reduce risk to launch and aid in garnering student interest.

Research Limitations

Because institutions self-report data to the NCES, some comparable and competitor programs may have chosen to report completions for a doctoral-level social work program under an alternate CIP code and not be included in the analysis.

Analysis of Job Postings for Doctoral-Level Social Work Professionals in Maryland

Employer demand trends suggest strong need for program graduates. Relevant employer demand for doctoral-level social work professionals grew an average 4.51% per month between December 2018 and November 2021, outpacing the average growth in demand for all doctoral-level professionals (i.e., 1.59%). However, administrators should note, the average monthly growth in demand is likely exaggerated due to a lower number of postings per month and only represents an average monthly increase of four postings. Additionally, employers advertised a moderate number of relevant job postings in the last 12 months (i.e., 980 postings). Together, these trends indicate a growing labor market for relevant professionals.

+4.51%

Average Monthly Demand Growth

December 2018-November 2021, Regional Data

- Average monthly growth of four postings.
- During the same period, demand for all doctoral-level professionals grew 1.59%.

118 job postings

Average Monthly Demand

December 2018-November 2021, Regional Data

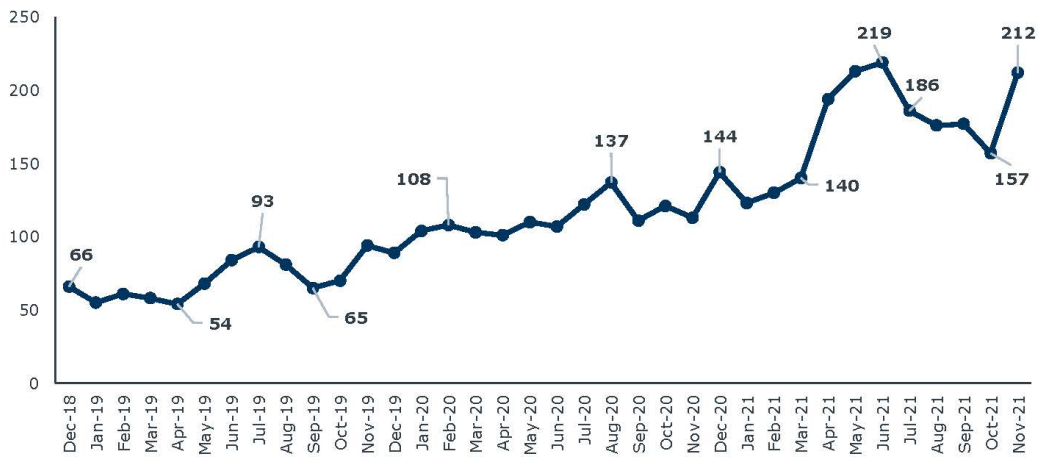
980 job postings

Relevant Jobs Posted in the Past Year

December 2020-November 2021, Regional Data

Job Postings for Doctoral-Level Social Work Professionals over Time

December 2018-November 2021, Regional Data



Source: EAB analysis. Emsi Analyst.

Analysis of Employment for Social Work Professionals

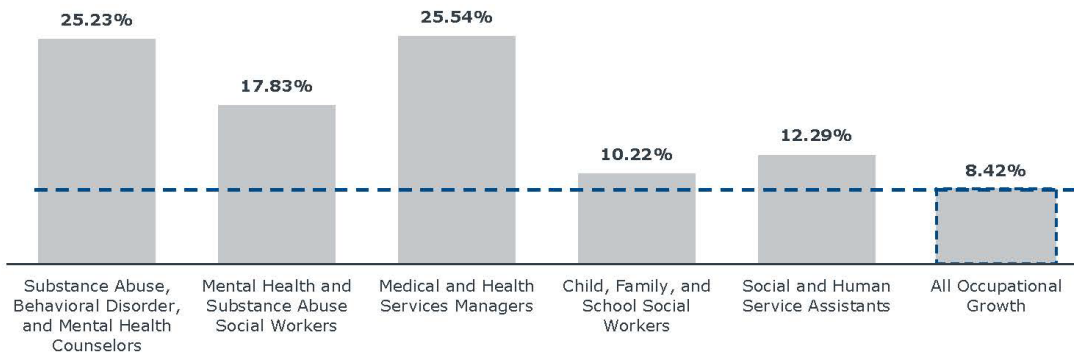
Regional employment in all five top relevant occupations is projected to grow faster than the average across 2021 to 2031. This indicates employment opportunities for graduates will likely increase in the next 10 years.

Employment in the occupations “substance abuse, behavioral disorder, and mental health counselors” and “medical and health services managers” may grow significantly faster than average (25.23% and 25.54%, respectively). The [Bureau of Labor Statistics](#) suggests that the COVID-19 pandemic will drive demand for mental health treatment. Additionally, the [BLS](#) anticipates that the aging baby-boom population, the shift in services from hospitals to health practitioners’ offices, and the widespread use of electronic health records will drive increased demand for general healthcare services.

While these occupations represent the most common occupations appearing in job postings for doctoral-level social work professionals, the projected employment data considers all jobs within an occupation at all degree levels.

Projected Employment in Top Occupations¹

2021-2031, Regional Data



--- The dashed blue line represents the projected employment growth across all occupations from 2021 to 2031.

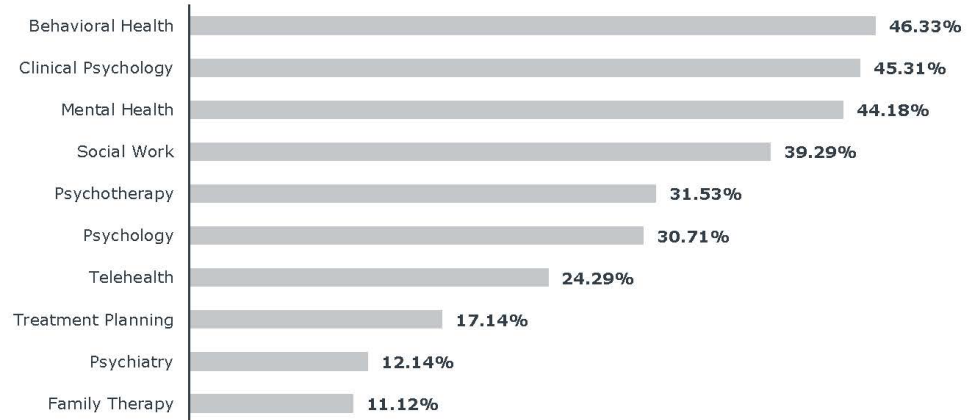
1) Top occupations refer to the occupations in which employers most often seek relevant professionals.

Source: EAB analysis. Emsi Analyst.

Top Skills Requested of Doctoral-Level Social Work Applicants

December 2020-November 2021, Regional Data

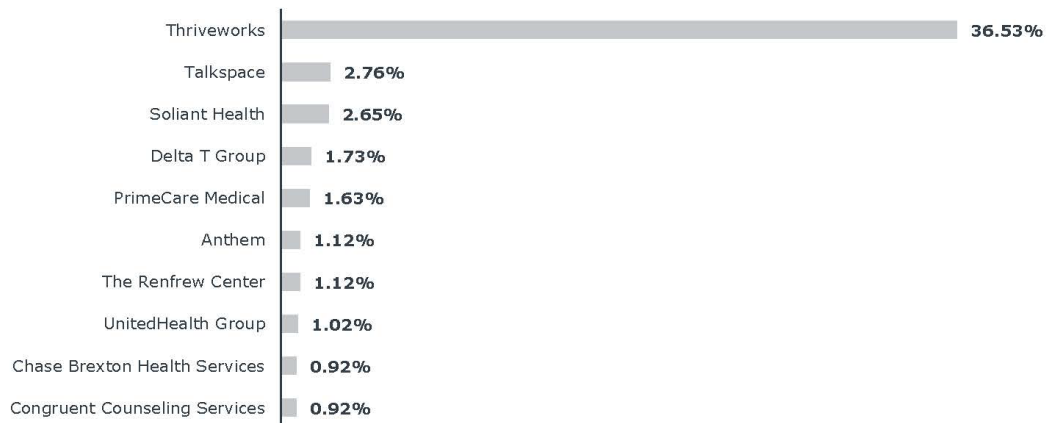
n-value=980 job postings



Top Employers Seeking Doctoral-Level Social Work Applicants

December 2020-November 2021, Regional Data

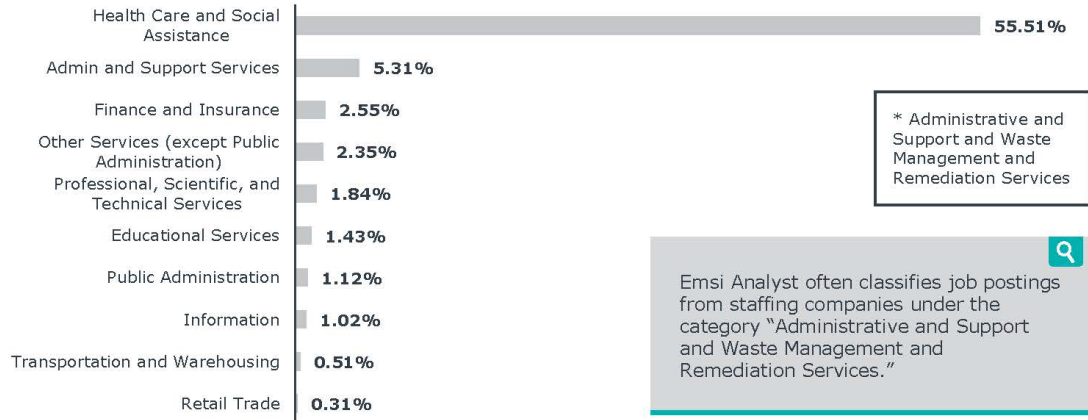
n-value=980 job postings



Top Industries Doctoral-Level Social Work Job Postings

December 2020-November 2021, Regional Data

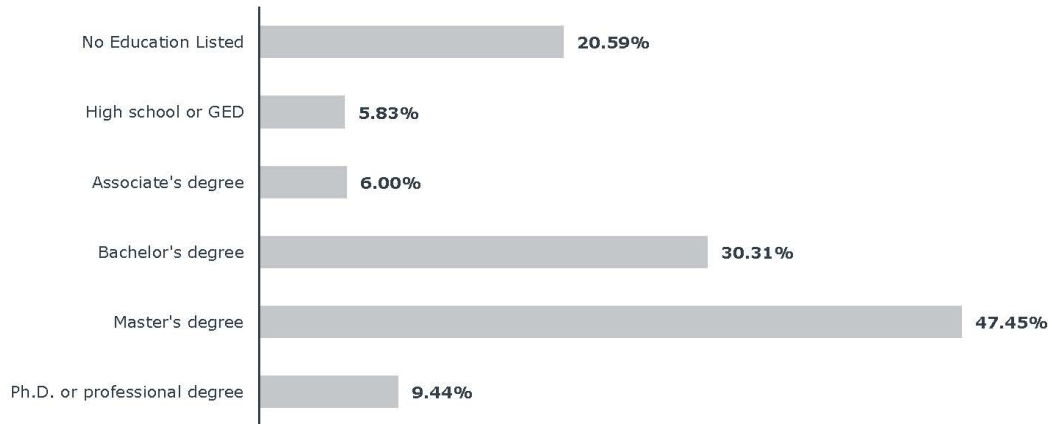
n-value=980 job postings



Education Levels Requested of Social Work Applicants

December 2020-November 2021, Regional Data

n-value=10,379¹ job postings



1) The n-value reflects the number of job postings requesting any degree level social work applicants rather than the number of postings requesting doctoral-level social work applicants.

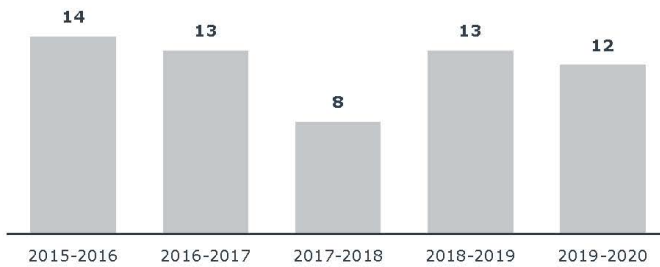
Source: EAB analysis. Emsi Analyst.

Analysis of CIP Code 44.0701 ("Social Work") Doctoral-Level Completions in Maryland

Between the 2015-2016 and 2019-2020 academic years, relevant completions fluctuated, resulting in a net decrease of two completions. Over the same period, the number of institutions reporting relevant completions remained constant. These trends indicate student demand and competition remained relatively constant over the profiled period.

Completions Reported over Time

2015-2016 to 2019-2020 Academic Years, Regional Data



2.00

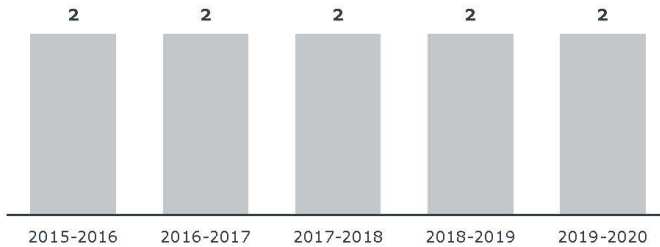
Net Decrease in Completions

2015-2016 to 2019-2020 Academic Years, Regional Data

- No growth in number of institutions in the same period.

Institutions Reporting Completions over Time

2015-2016 to 2019-2020 Academic Years, Regional Data



0.00%

Institutions Reporting Completions with a 100% Distance-Delivery Option

2019-2020 Academic Year, Regional Data

6.00

Mean Completions per Institution Reporting

2019-2020 Academic Year, Regional Data

- A decrease from the seven mean completions reported in the 2015-2016 academic year.

6.00

Median Completions per Institution Reporting

2019-2020 Academic Year, Regional Data

- A decrease from the seven median completions reported in the 2015-2016 academic year.

Source: EAB analysis. National Center for Education Statistics.

Analysis of CIP Code 44.0701 (“Social Work”) Doctoral-Level Completions in Maryland

Although the number of relevant completions declined between the 2015-2016 and 2019-2020 academic years, the University of Maryland, Baltimore increased the number of relevant completions reported and their market share. This indicates the University of Maryland, Baltimore’s program grew despite a slight decrease in student demand and suggests potential for further program growth amidst only one statewide competitor.

Institutions with Most Reported Completions

2015-2016 and 2019-2020 Academic Years, Regional Data

Institution	Reported Completions, 2015-2016 Academic Year	Market Share, 2015-2016 Academic Year	Reported Completions, 2019-2020 Academic Year	Market Share, 2019-2020 Academic Year
University of Maryland, Baltimore	7	50.00%	9	75.00%
Morgan State University	7	50.00%	3	25.00%

Source: EAB analysis. National Center for Education Statistics.

Research Methodology

EAB's market insights research guides strategic programmatic decisions at partner institutions. The Market Insights Service combines qualitative and quantitative data to help administrators identify opportunities for new program development, assess job market trends, and align curriculum with employer and student demand.

Unless stated otherwise, this report includes data from online job postings from December 2020 – November 2021. To best estimate employer demand for doctoral-level social work professionals, the Forum analyzed job postings for relevant occupations (e.g., "health care social workers," "social workers, all other").

Definitions

"CIP" code refers to the Classification of Instructional Programming code.

"Regional" and "statewide" refer to Maryland.

Research Questions

The requesting partner asked:

- **How has demand for graduates of my program evolved over time?**
- **In which industries should the program prepare students to work?**
- **What skills should the program teach to prepare students to meet employer demand?**
- **Which employers demonstrate the greatest demand for graduates?**
- **What education level do employers most frequently request from relevant professionals?**
- **How many students graduate from similar programs regionally, and how has this changed over time?**
- How are similar programs structured?
- How are similar programs delivered?
- What experiential or practical learning do similar programs offer?
- What courses are included in the curricula of similar programs?
- What accreditation do similar programs hold?

Bolded questions were addressed within this analysis; remaining questions will be addressed if partner pursues additional research.

Project Sources

The Forum consulted the following sources for this report:

- EAB's internal and online research libraries
- Emsi Analyst, described below
- U.S. Bureau of Labor Statistics
- U.S. National Center for Education Statistics (NCES)

Labor Market Intelligence Partner: Emsi

This report includes data made available through EAB's partnership with Emsi (formerly Economic Modeling Specialists International), a labor market analytics firm serving higher education, economic development, and industry leaders in the U.S., Canada and the United Kingdom.

Emsi curates and maintains the most comprehensive labor market data sets available for academic program planning, providing real-time job posting data, workforce and alumni outcomes data, and traditional government sources of data. Under this partnership, EAB may use Emsi's proprietary Analyst™ and Alumni Insight™ tools to answer partner questions about employer demand, the competitive landscape, in-demand skills, postings versus actual hires, and skills gaps between job postings and professionals in the workforce. The Emsi tools also provide EAB with in-depth access to unsuppressed, zip-code-level government data for occupations, industries, programs, and demographics. For more complete descriptions of the Emsi tools, visit:

- <http://www.economicmodeling.com/analyst/>
- <https://www.economicmodeling.com/alumni-insight/>

To learn more about Emsi and its software and services, please contact Bob Hieronymus, Vice President of Business Development at bob.hieronymus@economicmodeling.com or (208) 883-3500.



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Appendix B

Maryland MSW Interest in DSW Survey

Doctor of Social Work Degree
University of Maryland, School of Social Work
Survey

Please read each question carefully and select the response that best describes you.

Q2 What is your age?

Q3 How many years has it been since you graduated from the University of Maryland School of Social Work?

Q4 How old were you when you completed your MSW at Maryland?

Q5 Were you a full-time or part-time student?

Full-time (1)

Part-time (2)

Q6 What was your concentration at the School of Social Work

- Clinical (1)
 - MACO (2)
 - Combined Clinical/MACO (3)
-

Q7 What is your gender?

- Male (1)
 - Female (2)
 - Non-binary / third gender (3)
 - Other (please specify) (4) _____
-

Q8 What is your racial identity?

- Black or African American (1)
 - Native American or Alaska Native (2)
 - Asian (3)
 - White (4)
 - Hispanic/Latinx (5)
 - Native Hawaiian or Pacific Islander (6)
 - Other (please specify) (7) _____
-

Q9 At what level are you licensed to practice Social Work within your State?

- LMSW (1)
 - LCSW (2)
 - LCSW-C (3)
 - I am not licensed in any State to practice Social Work (4)
-

Q10 Describe your present social work employment

- I am not working as a social worker right now (1)
 - Social worker in a health care system (2)
 - Child welfare program (3)
 - Behavioral/mental health agency (inpatient or outpatient) (4)
 - Private Practice Clinician full-time (5)
 - Community agency or non-profit in primarily an administrative role (6)
 - Social Work Faculty (full-time) (7)
 - Government employee (federal, state, county, or city) (8)
 - School social work (9)
 - Other (please describe) (10) _____
-

Q11 How many hours do you see clients in private practice each week?

- I do not have a private practice (1)
 - 1 - 5 (2)
 - 6 - 10 (3)
 - 11 - 20 (4)
 - 21 - 30 (5)
 - 30+ (6)
-

Q12 The DSW is an advanced practice degree that we hope will be offered at the University of Maryland, School of Social Work. How do you describe your interest in applying for this degree?

- Very interested in applying for this degree (1)
 - Moderately interested in applying for this degree (2)
 - Mildly interested in applying for this degree (3)
 - Disinterested right now but might consider it in the future (4)
 - Not particularly interested in applying for this degree (5)
 - I will never apply for this degree (6)
-

Q13 How likely is it that you will apply for this degree in the next year for a Fall 2024 start date?

- I will apply within the next year (1)
- I will consider applying within the next year (2)
- It is unlikely that I will apply in the next year but will consider applying sometime in the future (3)
- I have no interest in applying for this degree (4)

Q14 What might be some of your reasons for pursuing a DSW degree? (check all that apply)

- Desire to develop advanced clinical skills and knowledge beyond what was available in continuing education (1)
 - Career advancement (e.g. desire for promotion, more management responsibilities, leadership position) (2)
 - Desire to carry out rigorous research (3)
 - Desire to teach (4)
 - Want to be on par with doctoral trained colleagues (5)
 - Need to differentiate my private practice or better attract clients (6)
 - Desire to obtain a doctoral degree but do not want to do a research-intensive PhD program (7)
 - Desire to obtain a doctoral degree but want or needed to work full-time while enrolled (8)
-

Q15 Please rank order these factors with "1" being most important to you and "7" being the least important item in your decision to pursue a DSW

- _____ Desire to develop advanced clinical skills and knowledge beyond what was available in continuing education (1)
 - _____ Career advancement (e.g., desire for promotion, more management responsibilities, leadership position) (2)
 - _____ Desire to carry out rigorous research (3)
 - _____ Desire to teach (4)
 - _____ Want to be on par with doctoral trained colleagues (5)
 - _____ Need to differentiate my private practice or better attract clients (6)
 - _____ Desire to obtain a doctoral degree but did not want to do a research-intensive PhD program (7)
-

Q16 I am most interested in a DSW program that has a strong focus on the following: Please rank order the importance of this list with "1" being the most important aspect of DSW education and "10" being the least important for you.

- _____ Advanced treatment methods for individuals, families and groups (1)
- _____ Learning how to teach social work students within the classroom (2)
- _____ Methods of supervising social work students/workers in the clinic or field (3)
- _____ Enhancing my leadership skills (4)
- _____ Developing advanced research skills (5)
- _____ Advanced Social Policy analysis skills (6)
- _____ Advanced Community organization skills (7)
- _____ Administrative skills for running a community program such as a NPO (8)
- _____ Administrative skills for running a private practice program (9)
- _____ Promoting social justice and health equity (10)

Q17 How important is it for you that a DSW program focus primarily on advanced clinical skills and treatment methods i.e. CBT, Dialectical Behavior Therapy, Motivational Interviewing, etc.

- Extremely important (1)
- Very important (2)
- Somewhat important (3)
- Not particularly important (4)
- Not important at all (5)

Q18 Please describe the ideal DSW program that would meet your career goals

Q19 Some DSW programs are all online. Some combine online learning with weekend or evening (in person) classes. What type of DSW program would work best for you? (please explain)

Appendix C:

DSW Programmatic Comparison: University of Maryland, Baltimore and Morgan State University

UMB DSW	MSU DSW	Notes
Clinical Courses		
<p>SWCL 800 Advanced clinical practice theory: Historical perspectives and current contexts</p> <p>The focus of this class will be on theories that were prominent during the early and mid-twentieth century. Drawing primarily from original sources, students will consider key assumptions, constructs, and propositions of each theory in terms of its congruence with social work’s principles, values, and mission, as well as its application and relevance to the identities and experiences of diverse communities and populations across a variety of settings.</p>	<p>DSW 701 Advanced Clinical Practice 1</p> <p>This clinical methods course advances students' ability to work directly with individuals from urban populations using evidence-based practice and theoretical models “The evidenced-based models of clinical practice addressed in this course are Afrocentric paradigms and modalities</p>	<p>UMB focuses on theory and populations across a variety of settings. MSU focuses on urban populations.</p>
<p>SWCL 801 Neuro-biological basis of human behavior</p> <p>The course provides an overview of the neurobiology shaping human behaviors that inform clinical social work practice. Students will explore the impact of genetics, neuroanatomy and physiology in the etiology of emotional disorders and shaping behavior. We will review basic neuroanatomy, behavior physiology, and neurodevelopment. The course explores the mind and body connection in moderating a person’s mental health and psychological wellbeing, relational function, and cognition.</p>	<p>ODSW 702 Neurobiology and Psychopharmacology in Social Work Practice</p> <p>Clinical Practice with urban populations must focus on the person in their environment to improve health and wellbeing. This course will focus on the neurobiological implications for behaviors that develop due to the impact of urban living conditions and adaptation. Research supports a neurobiological basis for many conditions experienced by urban populations, including mental health disorders, addictive disorders, and maladaptive behaviors. Students will examine global differences in intervention strategies and currently used pharmacological interventions.</p>	<p>UMB offers separate courses in both neuroscience and pharmacology. MSU offers one course combining neuroscience and pharmacology. MSU course focuses on urban populations.</p>
<p>SWCL 803 Psychopharmacology and complimentary therapeutics</p> <p>This basic course in psychopharmacology will be co-taught by faculty from the Schools of Social Work and Pharmacy. Students will be introduced to the basics of pharmacotherapy addressing the more common DSM-5 diagnoses. Key medications with their clinical indications, symptom management, and dosage will be addressed. Students will be introduced to commonly used medications to treat mood disorders, anxiety, PTSD, personality disorders</p>		<p>Same as note above - UMB offers separate courses in both neuroscience and pharmacology. MSU offers one course combining neuroscience and pharmacology. MSU course focuses on urban populations.</p>

<p>and schizophrenia. The course will emphasize the mechanism, action, contraindications, interactions with other medications and side effects profiles of each class of medications. Complimentary or therapeutic alternatives to traditional western medication will be explored.</p>		
<p>SWCL 804 Foundational Clinical Practice Models</p> <p>In this seminar-style course, students will explore in depth the three major psychotherapeutic frameworks that have historically guided clinical work in the United States: psychodynamic, behavioral, and cognitive models. Students will examine the origins of these modalities, including the sociopolitical context in which these techniques emerged, and the core therapeutic skills and interventions associated with their implementation. Clinical methods will be demonstrated and practiced with simulation and standardized clients.</p>	<p>ODSW 703 Advanced Clinical Practice 2</p> <p>The aim of this advanced methods course is to deepen students' understanding of interventions with urban populations. Students will focus on interventions with Children and Adolescents, Couples and Families, the Elderly, and Substance Use Populations. This course will explore urban group dynamics, theories, and methods, with special emphasis on particular groups as a whole. Course content includes using research and theory to plan for and facilitate interventions with urban populations in different settings. The meanings of group experience for members of oppressed groups will be stressed.</p>	<p>UMB's course looks at frameworks that guide clinical practice and students will participate in simulations using standardized clients. MSU's course focuses on interventions used with urban populations.</p>
<p>SWCL 809 Innovations in Clinical Practice</p> <p>In this seminar-style course students will explore a variety of clinical modalities that have developed as part of a "third wave" or move toward integrative practice models. The course will cover concepts like meaning making, trauma-informed care, individual and collective narratives, cultural humility, critical consciousness, mindfulness, relationship skills, the brain-body connection, and/or values-centered action. In teams, students will choose a modality in which they would like to develop deeper knowledge and skill, concentrating on its application within their own area of focus or population of interest. Each student will create and present a case conceptualization; a simulated demonstration video implementing the skills associated with their chosen modality and identify questions or discussion topics for consultation and discussion amongst course participants.</p>	<p>N/A</p>	<p>MSU does not offer an integrative practice models course</p>
<p>SWCL 812 Integrative Clinical Practice Models</p> <p>This course will explore different frameworks for integrative practice and give students the opportunity to consider and articulate what aspects of different traditions, tools, and</p>	<p>N/A</p>	<p>MSU does not offer a course on integrative social work practice</p>

<p>evidence-supported frameworks might be most helpful in their own area of focus or population of interest. As part of this course, students will research different aspects of effective practice within their specific area of focus including multiple forms of evidence: scholarly research, clinical trainings, and community voices, feedback, and narratives. Each student will develop a training guide, demonstration video, or scholarly paper focused on the application and adaptation of clinical modalities within the sociocultural context of the communities or populations they work alongside.</p>		
<p>SWCL 818 Integration Seminar and Case Presentation</p> <p>This lab will engage students in progressively higher-level critical thinking and clinical decision making using a case-based approach along with simulation. This seminar will allow students to integrate their DSW academic course work with clinical experiences from their employment sites and work with their own clients. Students will present and discuss client cases, their diagnoses, theoretical conceptualization of the presenting problems, treatment planning and specific interventions used. Students will learn methods of effective consultation both in person and using telehealth care devices. Students will learn the process of effectively triaging clients for services, identifying potential risks (health/behavioral health).</p>	<p>N/A</p>	<p>MSU does not offer a course on Case Presentation</p>
<p>N/A</p>	<p>ODSW 804 Spirituality, Religion, and The Helping Tradition (Clinical)</p> <p>This course is offered to aid the development of culturally competent clinical practitioners who will be critically reflective of and respectfully responsive to the diversity of religious and spiritual values, ethics, and principles that contribute to the world views of those with whom they work. It explores the role of spiritual and religious perspectives in supporting or impeding individuals, families, and group strengths and their interaction within structural systems. Students will gain knowledge of clinical interventions related to V Codes that may be the cause of the underlying conditions related to spiritual or religious problems and the overlap between psychiatric disorders.</p>	<p>UMB does not offer a course on Spirituality and Religion.</p>

<p>SWCL 821 Simulation and Case Consultation Lab</p> <p>Clinical Social Work practice involves not only working with individuals and families but also working alongside other professionals in the care of clients. Effective interprofessional collaboration, teamwork and communication is necessary. This Lab will provide simulation of case consultation along with discussing how to conduct short term consultative services, telehealth services, provide written and verbal feedback of assessments, and how to craft helpful recommendations for colleagues in support of clients well-being.</p>	<p>ODSW 805 Technology, Human Behavior, and Clinical Social Work Practice</p> <p>Clinical Social Worker Practitioners provide a variety of services using online technologies. Covid-19 provided urban populations with the convenience of online treatment for medical, mental health, and other health-related disorders and educational and social opportunities. This course explores technology's impact on advanced clinical social work practice with urban populations, colleagues, and institutions and the behaviors that influence technology use. Students will apply ethical standards to advanced clinical practice, debate access to care issues, and use evidence-based interventions and theoretical models on a number of technological platforms.</p>	<p>UMB's course focuses on IPE and uses simulation labs. MSU's course focuses on technology, how it impacts clinical practice specifically with an urban population.</p>
<p>Teaching, Training, and Supervision</p>		
<p>SWCL 813 Social Work Teaching and Training Pedagogy: Theory and Practice</p> <p>The course focuses on the theoretical and technical aspects of delivering social work education. The main focus of the course is to create, the simulation of real-world teaching situations designed to help students develop their teaching practice through a process of critical reflection, integration, and application. course covers social work teaching at both the BSW and MSW levels. The course includes theories of andragogy and reflective practice, curriculum development, teaching methodologies and techniques, general classroom activity, assessment, and evaluation of students, testing methodology, ethical considerations, and professional academic development at BSW and MSW levels of social work education.</p>	<p>ODSW 803 Social Work Pedagogy and Education</p> <p>This course examines the role and structure of urban social work education at the BSW, MSW, and Ph.D./DSW levels. Students will be introduced to a variety of philosophies for teaching adult education, strategies for effective learning in the classroom with an emphasis on diversity, social justice, and conflict resolution in the classroom. Content will focus on students' development of teaching skills, curriculum/syllabus design, lecture preparation, assignments and evaluation, and content delivery for effective and competent teaching and the transmission of knowledge and skills in academic and agency settings. Students will learn diverse instructional modalities including remote, asynchronous, hybrid, and Morgan flex. Students will develop a teaching philosophy to include in their professional portfolio.</p>	<p>The two courses share a similar focus, covering foundational concepts and skills relevant to advanced social work practice.</p>
<p>SWCL 817 Social Work Course and Curriculum Design Lab</p> <p>This second course will be a practicum experience for students. Students will be assigned to create and implement a social work training seminar or course at their employment site. For example, Students may guest lecture in</p>	<p>N/A</p>	<p>MSU does not offer a teaching practicum course. They offer an online introductory course on teaching methods</p>

<p>an appropriate SW course and provide at least one three-hour lecture on a topic reflecting their clinical specialty of interest. Lectures will be designed and discussed within the classroom format and will be implemented during the semester. Each student teaching activity will be observed by the instructor or videotaped for review along with detailed feedback of their teaching session.</p>		
<p>SWCL 805 Supervision and Mentorship</p> <p>This course explores the principles and practice of supervision, consultation, and mentoring in Clinical Social Work. Students will explore a variety of supervisory approaches models of individual and small group supervision will be demonstrated, practiced. Issues of how to teach and mentor supervisees within a community setting will be discussed. Simulation of clinical supervision with standardized clients across academic and community settings will be employed by students as they explore their role as a supervisor. Students will use exercises on self-awareness, reflective supervision, and learn to employ DEI principles.</p>	<p>N/A</p>	<p>MSU does not offer a course on supervision</p>
<p>SWCL 810 Supervision and Mentorship Lab</p> <p>This supervision Lab will be a practicum experience for DSW students. Students will be assigned to supervise a group of social work students working within their field placement or to use their employment environment to practice their supervision strategies. The goal is for students to apply their learning with actual social work trainees/workers, present these experiences to the group and obtain feedback to improve this supervisory experience. At least one supervision session will be videotaped for discussion and evaluation.</p>	<p>N/A</p>	<p>MSU does not offer a practice lab on supervision</p>
<p>Leadership Development</p>		
<p>SWCL 811 Leadership Styles in Social Work Practice Lab</p> <p>This course is designed to assist students in developing a personal philosophy and approach to leadership. The course will introduce historical and current theories on leadership. While there are many models of leadership development and</p>	<p>ODSW 802 Leadership for Social Change</p> <p>This course is designed to assist a new generation of advanced urban practitioners in developing a professional philosophy and approach to leadership and policy practice skills on a micro, mezzo, and macro level focused on creating a</p>	<p>UMB's course focuses on developing leadership skills across a variety of settings. MSU's course focuses on</p>

<p>practice, there is growing concern that we are amid a leadership crisis: the need and intensity for health and human services is increasing while leadership talent is declining. The performance of the human services sector depends upon, emerging, and current leaders possessing relevant, meaningful, and impactful leadership skills. This course will align leadership theory with leadership practice in the real world at the individual and collective level. This course will focus on promoting leadership skills across a variety of settings including NPO's, state and federal agencies, health care and human service agencies located in Rural Suburban and Urban environments.</p>	<p>more just society. The course will introduce current theories on leadership, reflect on various contexts in which leadership skills are exercised, and consider leadership practices in diverse environments. Conceptual frameworks including social justice, intersectionality, and anti-racism are placed within an ecological perspective to understand the relevance of interactions, dynamics, and consequences of structural bias and discrimination in decision making.</p>	<p>developing advanced urban practitioners.</p>
<p>Diversity, Equity, and Inclusion</p>		
<p>SWCL 806 Equity, Diversity, and inclusion in Social Work</p> <p>In this week-long intensive course, students will experientially engage with values, principles, concepts, and frameworks that facilitate justice-oriented, equitable, inclusive practice which recognizes the diversity in experiences and identities among the individuals and communities we work alongside. This will include a deep analysis of the impact of ideologies that sustain racism and other forms of oppression, how these <i>isms</i> manifest and endure, and how they impact individuals living within systems of power and privilege across micro and macro levels. Students will be introduced to the Social Change Ecosystem (Iyer, 2017), utilizing this framework to analyze the ways in which they can organize for lasting social change within their own sphere of practice in an effort to create a more equitable and just society. They will also engage with anti-racist anti-oppressive (ARAO) lenses, intersectionality, and Restorative Practices as approaches to clinical work in line with JEDI values. This will include examination of the clinical discourse on both conscious and unconscious bias, self-awareness, awareness of privilege, identity formation, the role of advocacy and a justice orientation in clinical work, and affirming, culturally responsive practice.</p>	<p>N/A</p>	<p>MSU does not offer a specific course in DEI but integrates DEI in the curriculum</p>

Administration and Community Organization		
N/A	<p>ODSW 806 Entrepreneurship- Advanced</p> <p>This course provides students with an experiential grant writing opportunity. Students develop a research project, not-for-profit, or for-profit business to focus their grant writing. Students will identify potential grants to fund the project. Students will select a grant funding opportunity for development. Students will develop skills in funding justification, developing a budget, project evaluation, and the development of a grant proposal. Scholarly literature, lectures, guest speakers, case studies, class discussions, and student presentations will develop the student's ability to develop and present for funding opportunities their specific project.</p>	UMB does not offer any community organization courses
N/A	<p>ODSW 808 Non-Profit Management, Fundraising, Board & Workforce</p> <p>This course will introduce students to different leadership roles in nonprofit organizations. Students will learn evidence-based, theoretical, and practical strategies for board membership, strategic planning, and ethical fundraising. Students explore financial documents and other tools used in the nonprofit sector for budgeting, funding allocation, capital planning, and operations. Students identify a nonprofit organization and develop a plan to join the organization as a board member.</p>	
N/A	<p>ODSW 706 Social Work and Urban Organizations, Communities and Policy</p> <p>The course is designed to provide students with the tools to analyze contemporary social welfare programs and the policy endeavors utilized to implement services which impact individuals, families and communities within the urban environment. Students will engage in learning activities which explore issues and programs to understand the relationship between social policy and social work practice.</p>	
Research and Scholarship		
<p>SWCL 802 Philosophy of Science in Social Work</p> <p>This course examines the assumptions, history, and development of scientific methods within</p>		MSU does not offer a course on the

<p>social work. The course will cover methods of scientific inquiry and how knowledge is accumulated and validated. Students will explore how theory is constructed and its importance in explaining and predicting behavior. The course provides an in-depth exploration of ontological and epistemological foundations within social work and behavioral sciences. Discussion of theory development and construction along with methodological approaches to testing theory will be explored. Students will discuss important controversies within the field of philosophy of science, the role of values in research and methodological strategies along with the limitations of measurements used in the social sciences. The course will identify and evaluate the building blocks of social science - definitions and concept-formation, descriptive strategies, traditions of interpretation, measurement of variables, strategies of inference, ethics and Forms of explanation of findings.</p>		<p>philosophy of science in social work</p>
<p>SWCL 819 Research Methods/ Quantitative Approaches</p> <p>The purpose of this course is to cover the essential concepts of quantitative research methods. This course will focus on research ethics, building a conceptual framework, question and hypothesis formulation, research design, sampling, level of measurement for variables and scale construction. Students will learn how to design research related to social work practice. The course will review the selection and development of outcome measures, intervention manuals, and fidelity measures as appropriate. It will closely examine the use and development of practice guidelines, evidence-based practice, and meta-analytic procedures.</p>	<p>ODSW 704 Research Methods for Clinical Practice</p> <p>This course presents an examination of scientific research methods specifically relating to social work clinical practice. Students acquire basic knowledge and skills to utilize existing social research for practice-related decision making and carry out systematic methods of inquiry in their practice setting. It will prepare the student for basic elements of research design and research methodology, ethical and cultural issues in research, and fosters critical thinking in evaluating existing research.</p>	<p>The two courses share a similar focus, covering foundational concepts and skills relevant to advanced social work practice.</p>
<p>SWCL 814 Research Methods/Qualitative Approaches</p> <p>This course will provide an overview of six types of qualitative research approaches widely used in social work inquiry: 1) content analysis, 2) template analyses, 3) grounded theory, 4) participatory action research, 5) Indigenous and decolonizing methods and 6) immersion approaches. These methods illustrate key differences in research purposes, epistemologies, ethics, and methods. In general, the course will</p>	<p>ODSW 807 Community Advocacy and Participatory Research for Applied Practice</p> <p>The purpose of this course is to comprehend the methods of informed decision-making through the lens of empirical research to guide community endeavor development and influence organizational leadership. Students are expected to develop research knowledge and enhance the skills needed for effective evidence-based clinical-community research application. This course will specifically prepare students with the necessary</p>	<p>UMB's course focuses on foundational qualitative research methods. MSU's course focuses on research methods for community/macro level research.</p>

<p>provide an exploration of foundational qualitative research methods and strategies. Students will be introduced to ontological, epistemological structures and theoretical assumptions underlying these methods. Students will learn how appropriately apply these methods with particular emphasis on use within the clinical setting. Students will learn how to both acknowledge and document the lived experience of participants.</p>	<p>skills for effective community level(macro) practice and leadership. Upon completion students will be able to identify and describe theories and relevant models of effective community practice and theoretical models for community organizations. Students will also be introduced to Community Based Participatory Research (CBPR) approaches and methods. This course is also designed for students to learn community practice theories and participatory approaches. Ultimately students will develop skills to execute CBPR studies with community partners and stakeholders.</p>	
<p>SWCL 807 Publication and Grant Writing Lab</p> <p>This workshop will provide students with the necessary information to outline and write a publishable paper, including the selection of a topic, target audience, and appropriate journal. Students will develop skills in organizing content and preparing for the review process. Emphasis will be placed on the development of a literature review for publication in one’s area of expertise/interest. Each student will be required to start or complete a paper that expands on work done for a practice course or that reflects their interest and supports the student’s clinical practice and/or Capstone project (e.g., a traditional case study or a single system design study).</p>	<p>ODSW 806 Entrepreneurship- Advanced</p> <p>This course provides students with an experiential grant writing opportunity. Students develop a research project, not-for-profit, or for-profit business to focus their grant writing. Students will identify potential grants to fund the project. Students will select a grant funding opportunity for development. Students will develop skills in funding justification, developing a budget, project evaluation, and the development of a grant proposal. Scholarly literature, lectures, guest speakers, case studies, class discussions, and student presentations will develop the student’s ability to develop and present for funding opportunities their specific project.</p>	<p>UMB's course focuses more on publishing and scholarship. MSU's course is geared toward grant writing.</p>
<p>N/A</p>	<p>ODSW 705 Applied Statistics</p> <p>This course equips students with the knowledge needed to use various statistical techniques, emphasizing applications that can be used to address urban social work practice issues. Students will learn to apply descriptive and some intermediate statistical procedures to social problems and human service programs, emphasizing clinical practice settings. In addition, beginning knowledge and use of computer statistical software packages will be emphasized.</p>	<p>UMB does not offer a course in statistics in the DSW curriculum</p>
<p>SWCL 815 Capstone Development Lab</p> <p>This course is focused on developing an idea for their final capstone project. This pro-seminar will encourage students to discuss, research and present their proposals for the capstone project. The instructor will provide instruction and</p>	<p>ODSW 997 Dissertation/Capstone Guidance</p> <p>This course enables a doctoral student to develop and execute an approved research agenda in consultation with the student’s dissertation/capstone project chairperson and committee. Students register for this course</p>	<p>The capstone/ dissertation is implemented UMB’s SWCL 815, SWCL 816, SWCL 820 and MSU’s ODSW 997 and</p>

<p>consultation to each student to formulate a project that is clearly defined and doable within the period allocated. By the end of this seminar, students are expected to have a solid draft of their proposal.</p>	<p>continuously to maintain enrollment until the student has completed the dissertation/capstone project. This course is a non-curricular course and is not considered a program credit requirement.</p>	<p>OSDW 998. As a final requirement, the capstone or dissertation demonstrates each student's expertise, critical thinking, and capacity to lead impactful changes in social work.</p>
<p>SWCL 816 Capstone Project Seminar</p> <p>This second seminar will be dedicated to the refinement and submission of their capstone proposal and the initiation of their proposed project including clear documentation of goals and objectives, procedures, and methods, expected outcomes, and timeline for completing the project. Each proposal will be presented to the class who will provide feedback and suggestions.</p>	<p>N/A</p>	
<p>SWCL 820 Capstone Project Seminar</p> <p>This seminar is the culmination of the capstone project and a student's last step before being certified for graduation. The first half of the class will be dedicated to assisting students to complete and write up their capstone project. The second half of the class each student will make a formal presentation of their project along with comments about their struggles, learning and future directions of this interest.</p>	<p>OSDW 998 Dissertation/Capstone Defense</p> <p>This course allows doctoral students the opportunity to defend their doctoral dissertation/capstone project for approval by the student's dissertation/capstone project chairperson and committee after the dissertation has been completed. After gaining approval of the dissertation/capstone project chairperson and committee, the dissertation/capstone project is submitted to the School of Graduate Studies for the final processing and approval.</p>	

TOPIC: University of Maryland, Baltimore (UMB) proposal to offer Master of Science (MS) in Medical and Health Studies

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: The University of Maryland School of Medicine Master of Science (MS) in Medical and Health Studies is to be offered as an off-ramp opportunity for medical students using the existing medical school required course work in the pre-clinical phase of the Renaissance Curriculum (62 credits). This MS will allow students who are unable or no longer desire to progress through the traditional 4-year medical school curriculum to transition to a master's. The MS will only be offered to matriculated medical students who have passed and applied the required pre-clerkship coursework and are in good academic standing. The MS includes coursework in biochemistry, pathophysiology, genetics, therapeutics, professional skills, and clinical knowledge of the provider-patient relationship and psychosocial aspects of patient care.

This MS allows the existing curriculum to pivot and support students who otherwise would withdraw or be dismissed and provide an opportunity for those students to be formally recognized for their academic achievements and financial investment. These students become part of UMB and School of Medicine alumni.

Employment with this degree is projected to increase faster than average over 10 years in all top five relevant occupations across the East Coast and US. Between 2018 and 2022, national degree completions increased by an average annual 8.6%, suggesting rising student demand. The critical role of professionals trained in Medical and Health Studies is recognized as integral to the success of our national health agenda as the baby boomer population needs more health care and individuals who can support the needs of industry, research, and private entities with a background in biomedical sciences and experience with established professionalism standards.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the UMB proposal for an MS in Medical and Health Studies.

COMMITTEE RECOMMENDATION:

DATE: December 3, 2024

BOARD ACTION:

DATE:

SUBMITTED BY: Alison M. Wrynn 301-445-1992

awrynn@usmd.edu



Dr. Roger J. Ward, EdD, JD, MSL, MPA
Provost and Executive Vice President

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November 1, 2024

Jay A. Perman, MD
Chancellor
University System of Maryland
3300 Metzerott Road
Adelphi, MD 20783

Dear Chancellor Perman:

On behalf of the University of Maryland, Baltimore (UMB) please find attached our proposal to establish a new academic program, *Master of Science in Medical and Health Studies*, within the University of Maryland School of Medicine.

The proposed degree will allow students who are unable or no longer desire to progress through the traditional 4-year medical school curriculum to transition from a doctorate program to a master's program. The program will only be offered to accepted and matriculated medical students who have studied, passed, and applied the required pre-clerkship coursework and remain in academic good standing. The program includes coursework that focuses on biochemistry, pathophysiology, genetics, therapeutics, professional skills and clinical knowledge of the provider-patient relationship and the psychosocial aspects of patient care. This proposal allows the School of Medicine's existing curriculum to pivot and support students who otherwise would withdraw or be dismissed from the University School of Medicine and provide an opportunity for those students to be formally recognized for their academic achievements and financial investment that they made to the School of Medicine and UMB campus. These students become part of UMB and School of Medicine alumni and support.

Should you require additional information, please contact Meghan Bruce Bojo, Executive Director of Academic Administration, at mbojo@umaryland.edu or 410-706-2055.

Regards,

A handwritten signature in black ink, appearing to read "Roger Ward", written over a light blue horizontal line.

Dr. Roger J. Ward, JD, MSL, MPA
Provost and Executive Vice President

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- Cooperative Degree Program
- Within Existing Resources, or
- Requiring New Resources

University of Maryland, Baltimore

Institution Submitting Proposal

Master of Science in Medical and Health Studies
Title of Proposed Program

Master of Science in Medical and Health
Studies

Spring 2025

Award to be Offered

Projected Implementation Date

51.1401

Proposed HEGIS Code

Proposed CIP Code

University of Maryland Baltimore School of
Medicine

Meghan Bruce Bojo

Department in which program will be located

Department Contact

410-706-2055

mbojo@umaryland.edu

Contact Phone Number

Contact E-Mail Address



November 1, 2024

Signature of President or Designee

Date

A PROPOSAL FOR A NEW ACADEMIC PROGRAM at THE UNIVERSITY OF MARYLAND, BALTIMORE FOR A MASTER OF SCIENCE IN MEDICAL AND HEALTH STUDIES

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A. Centrality to Institutional Mission and Planning Priorities:

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The University of Maryland, Baltimore (UMB) submits this proposal to create a Master of Medical and Health Studies within the University of Maryland School of Medicine (UMSOM). We intend to offer it as an off-ramp opportunity for medical students enrolled in the School of Medicine Doctor of Medicine Program using the existing medical school required course work in the pre-clinical phase of the Renaissance Curriculum, with a total of 62 credits for a Master of Science (M.S.). All coursework currently exists. The proposed degree will allow students who are unable or no longer desire to progress through the traditional 4-year medical school curriculum to transition from a doctorate program to a master's program. The program will only be offered to accepted and matriculated medical students who have studied, passed, and applied the required pre-clerkship coursework and remain in academic good standing. The program includes coursework that focuses on biochemistry, pathophysiology, genetics, therapeutics, professional skills and clinical knowledge of the provider-patient relationship and the psychosocial aspects of patient care. Students will be able to apply this knowledge and experience to the practice of patient care, research, and investigation, consulting to enhance health and research outcomes, and to improve patient care, community health, and well-being.

Of note, the concept of a compassionate off-ramp opportunity for medical students has been described as a "moral imperative".¹ Authors highlight that "As stewards of the educational process, medical educators have an ethical obligation to students and the public to create off-ramps, or points along the educational continuum at which learners can reassess their goals and educators can assess competence, that allow for students to leave medicine." Our proposal directly addresses "Recommendation 4: Give credit or credentials for competencies already achieved at a number of points along the medical education continuum (e.g., master's degrees in medical science, certificates in clinical competence) to promote the attainment of alternative degrees."¹ Aagaard et al propose that a master's degree provides evidence of advanced education, commitment to medical sciences and serves as an education pathway to alternative careers.²

The attainment of our proposed courses and credit hours far exceeds the typical master's program and spans an extensive breadth of medical science education disciplines. Students will have demonstrated a commitment to completing an intensive medical sciences program. The Master of Medical and Health Studies will be organized around the existing pre-clinical phase medical school curriculum. The student will be required to take and successfully pass the required pre-clinical phase courses of the existing Renaissance Curriculum to be eligible to transition from the doctorate to master's degree. All courses

¹ Bellini, Lisa M. MD; Kalet, Adina MD, MPH; Englander, Robert MD, MPH. Providing Compassionate Off-Ramps for Medical Students Is a Moral Imperative. *Academic Medicine* 94(5):p 656-658, May 2019. | DOI: 10.1097/ACM.0000000000002568

² Aagaard, Eva M. MD; Moscoso, Lisa MD, PhD. Practical Implications of Compassionate Off-Ramps for Medical Students. *Academic Medicine* 94(5):p 619-622, May 2019. | DOI: 10.1097/ACM.0000000000002569

are hosted by the University of Maryland School of Medicine. The UMB Registrar will facilitate admission and general learner transfer to the master's in medical and health studies from the doctoral program.

The program will prepare students for clinical practice, research, and leadership roles in healthcare and healthcare associated industries. Students from a wide range of backgrounds will be suitable for careers in biomedical sciences such as:

- medical and health service managers
- operations research analysis
- clinical laboratory technologists
- pharmaceutical preparation and manufacturing
- work in private and institutional medical settings
- healthcare insurance
- surgical and medical equipment sales and manufacturing
- biomedical research and development, and
- public health and hospital administrative services

Students will be able to provide expertise in clinical knowledge and skills which includes advanced understanding of human anatomy, physiology, pathology, biochemistry, pharmacology, microbiology, immunology, and understanding of the molecular and cellular basis of diseases. In addition, they will have experience in clinical diagnostic and therapeutic skills, medical ethics and professionalism, patient privacy and confidentiality principles, knowledge of healthcare delivery systems, hands-on experience through clinical skills training, and skills in team collaboration and interprofessional practice.

2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

UMB has a long history of developing qualified healthcare professionals. The program in Medical and Health Studies continues this tradition by recognizing the need for professionals with training in biomedical sciences. The knowledge and skills in Medical and Health Studies are crucial to future success in patient care, biomedical research, biomedical industry, and public health.

The proposed Master of Science degree will advance UMB's mission *"to improve the human condition and serve the public good of Maryland and society at-large through education, research, clinical care, and service."* The M.S. in Medical and Health Studies program directly aligns with the second theme of UMB's strategic plan, "Student Growth and Success," in order to "implement collaborative, inclusive, respectful, and accessible academic learning environments that equitably support and develop students to become exemplary professionals and purposeful contributors to society." Our proposed program leverages existing infrastructure and expertise to expand opportunities for medical students who choose or are unable to continue in the Doctorate level program but continue to desire meaningfully contribute to the biomedical sciences. In order to enhance student growth and success, this program will apply the existing goal of the Renaissance

Curriculum which is to create “life-long learners who ... possess humanism, professionalism, scholarship, leadership, critical thinking and attention to social justice and diversity.” These students will have experience in clinical diagnostic and therapeutic skills, medical ethics and professionalism, patient privacy and confidentiality principles, knowledge of healthcare delivery systems, hands-on experience through clinical skills training and skills in team collaboration and interprofessional practice.

The proposed program also supports UMB’s *fourth theme*, “Innovation and Reimagination,” by reimagining the School of Medicine existing curriculum to formally recognize students’ academic achievements. These students become part of UMB and School of Medicine alumni and support. We believe this proposal demonstrates, “adopting best-in-class design and pedagogical practices to prepare students for promising, rewarding, and impactful careers” even if those careers occur due to a pivot from a doctorate program to a master’s program. Secondly, this is an opportunity for UMB to be an early adopter in the operationalization of an off-ramp master’s program. Studies report 12 institutions currently offer an off-ramp master’s from their Doctor of Medicine program in the United States.^{3,4} Of these, seven institutions are public medical schools.⁵

3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation.

This program requires no new expenses or costs associated with IT, faculty, or infrastructure. The funding for this program is already budgeted and funded through the School of Medicine Doctoral program. There are no new faculty appointments for this program which relies on existing faculty. There is no new additional revenue for UMSOM.

4. Provide a description of the institution’s commitment to ongoing administrative, financial, and technical support of the proposed program and continuation of the program for a period sufficient to allow enrolled students to complete the program:

The UMB School of Medicine has an ongoing commitment to sustaining this new degree program it has developed. Students who are eligible for this degree are already enrolled as medical students and choose to pivot from the doctoral degree to the master’s degree by choice or they are unable to academically advance in the Doctoral program by policy. These students are already fully supported administratively through the School of Medicine. The School of Medicine requires no additional resources or administrative support for the Master of Medical and Health Studies. Administrative support includes the Vice Dean of Education, Associate Deans of Student Affairs and Medical Education, and the Assistant Dean of Student Affairs who will provide leadership for the quality and sustainability of the Master of Medical and Health Studies. The administrative services of the School of Medicine Offices of Student Affairs and Medical Education have the existing financial, technical support and collaboration with the UMB registrar to sustain this program.

³ Stringham RVV, Whitlock J, Perez NA, Borges NJ, Levine RE. A Snapshot of Current US Medical School Off-Ramp Programs-a Way to Leave Medical School with Another Degree. *Med Sci Educ*. 2021 Jan 7;31(2):341-343. doi: 10.1007/s40670-020-01175-w. PMID: 34457890; PMCID: PMC8368088.

⁴ Petersen KH, Jain NR, Case B, Jain S, Solomon SL, Meeks LM. Compassionate Off-Ramps: The Availability of Terminal Master's Degrees in US Medical Schools. *J Med Educ Curric Dev*. 2023 Mar 14;10:23821205231164022. doi: 10.1177/23821205231164022. PMID: 36936180; PMCID: PMC10017952.

⁵ Medical University of South Carolina, Michigan State University College of Human Medicine, University of California Irving School of Medicine, University of Colorado School of Medicine, University of Michigan Medicine, University of Utah School of Medicine, Wayne State University School of Medicine

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan:

The 2022 Maryland State Plan articulates three primary goals for postsecondary education: access, success, and innovation. The proposed M.S. in Medical and Health Studies aligns well with the State Plan. The M.S. in Medical and Health Studies meets the regional and State's future needs for advancement and evolution of knowledge by providing a bridge for students from traditional medical studies to healthcare and biomedical associated industries (such as medical and health service managers, operations research analysis, pharmaceutical preparation and manufacturing, private and institutional medical settings), equipping them with a vast foundational medical knowledge, early clinical skills, ethics and professionalism skills essential for navigating the complex healthcare and biomedical science environment. Positions in dynamic fields such as healthcare and biomedical industry require continuous learning, adapting to changes in technology, scientific discovery, and patient needs. The M.S. in Medical and Health Studies can prepare students to meet these challenges by offering the most up-to-date medical knowledge and clinical reasoning, and communication skills. Students can apply their learning directly to real-world healthcare and biomedical settings.

- Access – The M.S. in Medical and Health Studies program aims to Ensure equitable access to affordable and high-quality postsecondary education for all Maryland residents and offers a rigorous curriculum designed by leading experts in the field, ensuring students receive a high-quality education that is both comprehensive and current. This program equips students with advanced knowledge and practical skills, preparing them for successful careers in medical and health sciences.

This program specifically addresses “Priority 1: Study the affordability of postsecondary education in Maryland.” The M.S. in Medical and Health Studies addresses a gap in the current School of Medicine Doctorate program. As it currently exists, students who would be offered this opportunity leave the doctorate program without an attained postsecondary degree. The M.S. in Medical and Health Studies program provides an off-ramp opportunity for students to graduate with an advanced degree even if they do not achieve the doctorate level metrics. Bellini et al write, “As stewards of the educational process, medical educators have an ethical obligation to students and the public to create off-ramps, or points along the educational continuum at which learners can reassess their goals and educators can assess competence, that allow for students to leave medicine.” Our proposal directly addresses “Recommendation 4: Give credit or credentials for competencies already achieved at a number of points along the medical education continuum (e.g., master’s degrees in medical science, certificates in clinical competence) to promote the attainment of alternative degrees.”¹ Aagaard et al propose that a master’s degree provides evidence of advanced education, commitment to medical sciences and serves as an education pathway to alternative careers.⁶

⁶ Aagaard, Eva M. MD; Moscoso, Lisa MD, PhD. Practical Implications of Compassionate Off-Ramps for Medical Students. *Academic Medicine* 94(5):p 619-622, May 2019. | DOI: 10.1097/ACM.0000000000002569

- Success – The M.S. in Medical and Health Studies promotes and implements practices and policies that will ensure student success. Programs such as the proposed M.S. in Medical and Health Studies ensures that a student who has successfully passed the existing preclinical coursework but is unable to or does not want to continue in the Doctorate program has the opportunity to graduate with an advanced master’s degree.

Specifically, the M.S. in Medical and Health Studies addresses “Priority 5: Maintain the commitment to high-quality postsecondary education in Maryland. The M.S. in Medical and Health Studies is a 62-credit master’s program. The attainment of our proposed courses and credit hours far exceeds the typical master’s program and spans an extensive breadth of medical science education disciplines. Students will have demonstrated a commitment to completing an intensive medical sciences program taught by leading faculty of the University of Maryland School of Medicine.

The M.S. in Medical and Health Studies addresses “Priority 6: Improve systems that prevent timely completion of an academic program.” As Bellini et al write, “As stewards of the educational process, medical educators have an ethical obligation to students and the public to create off-ramps, or points along the educational continuum at which learners can reassess their goals and educators can assess competence, that allow for students to leave medicine.”¹ As it currently exists, students who would be offered this opportunity leave the doctorate program without an attained postsecondary degree. UMB and the School of Medicine have a full-service student support model to ensure early identification of students who may be struggling academically and to intervene to improve the likelihood of achieving this graduate level program.

- Innovation – The M.S. in Medical and Health Studies fosters innovation in all aspects of Maryland higher education to improve access and student success. The curriculum addresses a national discussion among the Group on Student Affairs (GSA) on off-ramp opportunities for medical students who are unable or no longer desire the Doctorate level program. The GSA addresses issues in medical school admissions, student affairs, student diversity affairs, student financial assistance, and student records at all member medical schools of the Association of American Medical Colleges (AAMC). The GSA involves national committees on Admissions, Student Affairs, Student Diversity Affairs, Student Financial Assistance and Student Records.

The M.S. in Medical and Health Studies addresses “Priority 8: Promote a culture of risk-taking.” As stated previously, this is an opportunity for UMB to be an early adopter in the operationalization of an off-ramp Master program. Studies report 12 institutions currently offer an off-ramp master’s from their Doctor of Medicine program in the United States.^{3,4} Of these, seven institutions are public medical schools.⁵

In a 2023 survey of Liaison Committee on Medical Education (LCME)-accredited MD programs, 19% of responding programs offered a terminal master’s degree program

(off-ramp).⁴ Eight-five (85%) of responding programs that did not have a terminal master program endorsed a benefit to having this opportunity for students. Our proposal directly addresses “Recommendation 4: Give credit or credentials for competencies already achieved at a number of points along the medical education continuum (e.g., master’s degrees in medical science, certificates in clinical competence) to promote the attainment of alternative degrees.” by Bellini et al.^{1,2}

For example, for a student in the existing curriculum, a student may be able to successfully advance within the Renaissance Curriculum academically but unable to pass the national (United States Medical Licensing Exam) USMLE licensing test Step 1 and be dismissed by policy with debt and no degree despite accruing credits consistent with a master’s degree. For those who qualify, this proposed program will allow these students who are in good standing to be able market the completed advanced coursework with a degree for employment or future educational experiences, rather than having a gap on their resume.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:

The UMSOM periodically receives inquiries from students who are academically unable to continue in the current curriculum or choose to no longer pursue the doctorate program about a master’s level program off-ramp option. The existing UMSOM program has roughly 600+ students with 1-2 students per year who find themselves in a position of no longer desiring or no longer academically by policy able to continue the doctorate program. This aligns with Strinham et al. who reviewed 12 institutions who offered a compassionate off-ramp master program and reported that student participation was small, with programs indicating that they graduated < 5 students per year and that when offered most students accepted the opportunity.³

Employment with a M.S.-level Medical Health Studies Professionals degree is projected to increase faster than average in all top five relevant occupations across the East Coast and nationally across the next decade, suggesting increasing employment opportunities in the next 10 years.⁷ In the prior 12 months (Apr 23-Mar 24), employers advertised relevant job postings with > 49,000 nationally and > 24,000 regionally). Between the 2017-2018 and 2021-2022 academic years, relevant national completions increased by an average annual 8.64%, suggesting rising student demand. The top occupations across job postings nationally and regionally (Apr-23-Mar-24) included:

- Medical and health service managers
- Natural science managers
- Medical scientists (except epidemiologists)
- Operations research analysts
- Operations research analysis
- Clinical laboratory technologists and technicians

⁷ EAB Market Insights. Market Pulsecheck for a Master’s Level Medical Health Science Program (Completed for the University of Maryland, Baltimore), April 2024.

- Compliance Officers
- Health technologists and technicians
- Technical writers
- Chemists
- Occupational Health and Safety Specialists
- Biological Scientists

Medical and Health Services Managers represented 25% of relevant job postings nationally and regionally within medical health sciences professionals. This occupation is projected to grow three times faster than average. The top industries for medical health studies and medical health sciences professionals nationally and regionally include pharmaceutical preparation manufacturing, Colleges, Universities and Professional Schools and General Medical and Surgical Hospitals. The top employers nationally and regionally included Johnson & Johnson and U.S. Department of Veteran Affairs, but the list includes many other pharmaceutical and biotechnology companies. For example, a student with this degree would be a potential fit as a Medical and Health Service Manager. According to the Bureau of Labor Statistics, this profession expects to see a projected job growth rate of 28% through 2032 ([Bureau of Labor Statistics](#)). U.S News ranks this job #2 in Best Business Jobs, #5 in STEM Jobs and #6 in Best Jobs ([US News](#)).

The critical role of health professions trained in Medical and Health Studies is recognized as integral to the success of our national health agenda as the baby boomer population is anticipated to need more health care and individuals who can support the needs of industry, research and private entities with a unique background in biomedical sciences as individuals who have the skills to liaison with medical professionals, industry and research in a variety of roles. These students have backgrounds in navigating electronic health records, Health Insurance Portability and Accountability Act (HIPAA), and established professionalism standards. Expansion of the Medical and Health Studies workforce will only grow as our healthcare system continues to evolve.

D. Reasonableness of Program Duplication

No programs exist in Maryland or Washington D.C. that offer a M.S in Medical and Health Studies.

There are no programs that exist similar to our program in that the students eligible for our program have been accepted and matriculated into medical school AND they have already completed all of the course requirements.

We are aware of other regional Medical Health or Sciences programs and/or programs with similar aims.

Table: Program Comparison				
Program	Proposed UMSOM Master of Medical and Health Studies	JHU Master of Science in Anatomy Education	MSU Master of Science in Biomedical Science	GWU Master of Science in Anatomical and Translational Sciences
Length	17 months	11 months	12-20 months	24-48 months
Credit Hours	62	26	32-35	39
Admission Process	N/A	Bachelor's degree requirement	Bachelor's degree requirement	Bachelor's degree requirement
Anatomy	X	x	x	x
Histology	X	X (some)	x	x
Human physiology	X	X (some)		
Cellular Biology	X		x	
Biochemistry	X			
Genetics	X			x
Pharmacology	X			x
Hematology	X			
Immunology	x		x	
Microbiology	x		x	
Microbial pathogens/infectious diseases	x			
Neuroscience	x			
Psychiatry/psychopathology	x			
Pathophysiology and therapeutics of the:				
gastroenterological system				
endocrinologic system	x			
cardiovascular system	x			
renal system	x			
pulmonary system	x			
muscular system	x			
dermatologic system	x			
skeleton	x			
longitudinal experience on understanding the components of clinical medicine and the community	x			
Other			Biostatistics Medical ethics Optional research thesis	Allows for part-time status. Biomedical Ethics

- Johns Hopkins University offers a 1-year [Master of Science in Anatomy Education](#). This 1 year program requires applicants to have been admitted from a bachelor's degree program who wish to pursue medical/health sciences education, admission to a Ph.D. program in biology/biomedicine, and teaching positions in Higher Education. This master's program is a 26-credit program compared to our 62-credit program. The major curricular differences between our program and this master's program are the extensive inclusion of pathophysiology and therapeutics of all major organ systems. (see table)

- Morgan State University (MSU) offers a [Master of Science in Biomedical Sciences](#) is a two-track 12-20 month program directed towards students exploring a career in medicine, allied health professions or biomedical industry, and is not designed as a compassionate off-ramp for a MD program. This master's program is a 32-35 credit program compared to our 62-credit program. The major curricular difference between our program and this Master program is the biochemistry, genetics, pharmacology and extensive inclusion of pathophysiology and therapeutics of all major organ systems. MSU offers two tracks, one which includes a research thesis.
- George Washington University offers a [Master of Science in Anatomical and Translational Sciences](#) intended to enhance competitiveness for applications to medical schools, health sciences programs, or advanced graduate degree programs (Ph.D.). This master's program is a 39-credit program compared to our 62-credit program. Students participate in the same courses taught during the first year of medical school, including gross anatomy, microscopic anatomy, embryology, neuroanatomy, pharmacology, pharmacogenomics and genomic medicine. The major curricular difference between our program and this master's program is the biochemistry, cellular biology, and extensive inclusion of pathophysiology and therapeutics of all major organ systems.
- UMB School of Graduate Studies, another school within our home institution of UMB, offers a [Master of Science in Health Science](#). While the name of the program may be similar, the objective and course content of the School of Graduate Studies M.S. varies considerably from our program. First, the M.S. in Health Science has online coursework and supplements the Physician Assistant program to support their accreditation requirements and enhance their in-person clinical curriculum. In addition, the M.S. in Health Science is linked to seven additional academic concentrations, all online, including Science Communication, Global Research Ethics, Research Administration, Aging and Applied Thanatology, Global Health Systems, Implementation and Dissemination Science, and Integrative Health and Wellness. Depending on their concentration, graduates of this program will be equipped with the skills to effectively analyze and interpret health science literature, assess healthcare delivery systems and policies, advocate for patient safety and quality management, contribute to public health initiatives and disease prevention efforts, and apply ethical principles in health science practice, preparing them to address complex challenges in diverse environments at local, national, and global scales.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

The proposed program does not have relevance to the uniqueness and/or institutional identities and missions of HBIs. As mentioned above, although Morgan State University (MSU) has a M.S. in Biomedical Sciences, this program is notably different because it is a two-track 12-20 month program directed towards undergraduate students exploring a career in medicine, allied health professions or biomedical industry. Our program is only available to matriculated medical students who have already completed the required

coursework and are eligible to transfer from the doctoral program to the Master program. In addition, the MSU program is a 32-35 credit program compared to our 62-credit program. The major curricular difference between our program and this Master program is the biochemistry, genetics, pharmacology and extensive inclusion of pathophysiology and therapeutics of all major organ systems. MSU offers two tracks, one which includes a research thesis.

F. Relevance to the identity of Historically Black Institutions (HBIs)

The proposed program does not have relevance to the identity of HBIs in Maryland.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes

1. Describe how the proposed program was established, and also describe the faculty who will oversee the program.

The M.S. in Medical and Health Studies was proposed by the Office of Student Affairs and the Office of Medical Education in the University of Maryland School of Medicine response to medical students being unable to progress through the four-year medical school curriculum. The Medical Education Advising Committee (MEAC) recognized the compelling need for this specific M.S. program as an off-ramp opportunity for selected students to recognize their academic achievements independent of a MD degree.

The faculty overseeing the program are listed with their credentials in Section I, subsection 1: Adequacy of Faculty Resources.

2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

By the completion of the proposed M.S. in Medical and Health Studies, students will develop core competencies in four key areas: 1) Integrated Medical Knowledge 2) Clinical Problem Solving and Application 3) Interdisciplinary Learning and Team-Based Approaches 4) Preparation for Clinical Practice

Integrated Medical Knowledge: At the end of the program, students will be able to:

- Grasp fundamental principles of various medical disciplines including anatomy, physiology, biochemistry, genetics, pathology, and pharmacology.
- Understand the pathophysiologic basis of diseases and therapeutic management.
- Acquire in-depth knowledge of specific systems such as hematology, immunology, neurology, gastroenterology, endocrinology, cardiovascular, renal, and pulmonary systems.

Clinical Problem-Solving and Application: At the end of the program, students will be able to:

- Apply integrated knowledge to analyze and solve clinical problems.
- Navigate epidemiologic characteristics, diagnostic considerations, and treatment options for various diseases.
- Engage in clinical correlations and case conferences to connect theoretical knowledge with clinical practice.

Interdisciplinary Learning and Team-Based Approaches: At the end of the program, students will be able to:

- Participate in a variety of teaching methods including lectures, small group discussions, team-based learning (TBL) sessions, and lab demonstrations.
- Collaborate with faculty from both basic and clinical departments for comprehensive learning.
- Develop skills through interactive sessions such as workshops, standardized patient exercises, and longitudinal clinical sessions.

Preparation for Clinical Practice: At the end of the program, students will be able to:

- Build a foundation for clinical rotations and clerkships.
- Gain an understanding of the community and context in which medical practice occurs.
- Develop practical skills and competencies necessary for effective clinical practice through hands-on experiences and real-world applications.

3. Explain how the institution will provide for assessment of student achievement of learning outcomes in the program and document student achievement of learning outcomes in the program.

Faculty will assess student achievement and mastery of learning outcomes in their courses using a variety of assessments including through satisfactory completion of assignments, scores on Problem Based Learning quizzes and course assessments. Student assessments include customized (National Board of Medical Examiners) NBME® assessments. Students have access to the NMBE self-assessment Services which allows to evaluate their readiness and practice for their upcoming exam, target their studies using diagnostic feedback that highlights areas of strength and weakness, reinforce their knowledge and maximize study time with answer explanations.⁸ In addition, during Practice of Medicine I, students have six encounters with standardized patients and physical exam teaching associates (PETAs) that encompass the medical interviews with common medical problems, the neurological exam, head/eyes/ear/nose/throat (HEENT) exam and abdominal exam. These experiences are conducted at the [Standardized Patient Program](#), a state-of-the-art facility dedicated to

⁸ https://www.nbme.org/educators/assess-learn/self-assessment-services?utm_medium=email&utm_source=email-cust&utm_campaign=NBME-Updates_8-8-2024

the evaluation, assessment and teaching of technical skills for students, faculty and health care providers throughout the State of Maryland. Students are assessed student's ability to conduct an appropriate history and physical, student's ability to identify presenting problems and risk factors, student's ability to formulate a differential diagnosis and plan of management, student's interpersonal communication skills, including verbal, paraverbal, and nonverbal communications, and overall technique.

Students will also have the opportunity to evaluate courses and faculty through a standard evaluation of every course. Our approach includes ensuring that student learning is in alignment with course learning outcomes, alignment of mission at institutional and program levels, alignment of mission with learning outcomes, then program outcomes with curriculum, flowing down to course outcomes and assignments. Assessment activities emphasize analysis of results and feedback loops for continuous improvement.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements

Students must complete the following ten core courses at UMSOM for a total of 62 program credits.

Course Name	Course Code	Course Credits	Required
Year 1 Fall			
Intro to Medical School	MED 510	1	x
Foundations	MEDS 511	11	X
Blood & Host Defenses	MEDS 512	8	X
Practice of Medicine 1	MEDS 517	3	x
Year 1 Spring			
Brain & Behavior	MEDS 513	9	X
Digestion & Hormones	MEDS514	7	X
Practice of Medicine 1	MEDS 517	3	X
Year 2 Fall			
Clinical Integration of First Year	MED 520	1	x
Cardiovascular, Renal & Pulmonary	MEDS 521	12	X
Skin, Bones & Musculature	MED 522	7	x

MEDS 510 Introduction to Medical School (1 credit)

Introduction to Medical School (IMS) is a one-week experience that provides students with the necessary information to begin their medical school journey. The course allows students to get to know faculty, staff, mentors, and students from their class and other classes in the School of Medicine. It covers aspects of the curriculum including pedagogical approaches, evaluation, and policies. Students are introduced to Baltimore and the citizens of Baltimore for whom they will be caring. Students are also made aware of the healthcare disparities that affect many of our patients and begin conversations to more fully understand and minimize these disparities. Students receive Unconscious Bias training and

exposure to the care of vulnerable populations. Finally, students are made aware of campus resources and how to access them.

MEDS 511 Foundations (11 credits)

Foundations is an introductory course that consists of several units: Foundations of Anatomy, Foundations of Research and Critical Thinking, and integrated Foundations blocks organized by weeks, each centered around a concept and a clinical problem. The course is designed to prepare MSI students for systems-based courses in the pre-clerkship curriculum and beyond. The course will present the fundamental principles of anatomy, embryology, biochemistry, genetics, physiology, histology, pathology and pharmacology – disciplines crucial for mastering concepts of systems-based pathophysiology and treatment of disease. Understanding the basic principles underlying these disciplines will be invaluable in analyzing the pathophysiologic basis of diseases and the pharmacologic approach to the therapeutic management of disease.

MEDS 512 Blood & Host Defense (8 credits)

Blood and Host Defenses is the second course of the first year. The course covers three major areas: (1) hematology and hematological malignancies, (2) immunology and immune disorders, (3) selected microbial pathogens and introduction to infectious diseases. This integrated course focuses on topics including general principles and clinical applications within hematology and immunology and serves to introduce selected blood and systemic infectious diseases caused by bacteria, viruses, fungi and parasites. The format consists of lectures, small group discussions, clinical correlations, team-based learning sessions, and lab demonstrations. Participation of faculty from both basic and clinical departments will provide an integrated coverage of major topics related to health and disease.

MEDS 513 Brain & Behavior (9 credits)

Brain and Behavior is an integrated multidisciplinary course taught by faculty from Neurology, Neuroscience, Anatomy, Pharmacology, Pathology, Anesthesiology, Pediatrics, and Psychiatry. This 10-week course will cover material that ranges from basic neurosciences to clinical correlates of neural dysfunction, neurological disease states, psychopathology and drugs of addiction. Our goal is to provide a firm foundation of Neuroscience and Psychiatry, adhering to the eight medical education objectives so that the students can utilize this body of knowledge to obtain a better understanding of disorders and diseases of the nervous system. The format of instruction includes lectures, small group sessions, clinical correlates, team-based learning, interactive video workshops, and anatomy as well as pathology labs.

MEDS 514 Digestion & Hormones (7 credits)

This course provides integrated and comprehensive coverage of gastroenterology and endocrinology. For each of these systems, students will receive in-depth instruction in the fundamental principles of anatomy and physiologic function. They will explore the pathophysiologic mechanisms of disease, including infection, inflammation, trauma, and malignancy. For each disease process, they will navigate the pertinent epidemiologic characteristics, diagnostic considerations, and treatment options. Students are guided through the material by clinical, basic science, and pharmacology faculty. The format includes lectures, small group clinical case conferences, anatomy labs and demonstrations, TBL sessions, clinical correlates, and self-directed learning.

MEDS 517 Practice of Medicine 1 (6 credits)

PoM-I is part of multi-year longitudinal experience to provide each student with the understanding the components of clinical medicine and the community in which they will be learning/practicing in. Through a series of lectures, small group workshops, standardized patient exercises and longitudinal clinical sessions with faculty members, students will gain the skills that form the foundation of their clinical rotations and clerkships.

MEDS 520 (Clinical Integration of First Year (1 credit)

Clinical Integration of First Year (CLIFY) is a course designed to review and solidify the material from the first year of medical school. This is a one-week course that emphasizes the content first learned in Foundations, Brain and Behavior, Digestion and Hormones, Blood and Host Defense, and Practice of Medicine. The course will integrate the information learned in the first year with clinical cases in order to provide context and examples of applicability of the material. The course will also reinforce the basic science fundamentals as they apply to these clinical cases. CLIFY will integrate pathophysiology, clinical management, pharmacology, and therapeutics.

MEDS 521 Cardiovascular, Renal & Pulmonary (12 credits)

Cardiovascular, Renal & Pulmonary is a second-year course that covers three major areas: 1) Cardiovascular System, 2) Renal System, 3) Pulmonary System. This integrated course focuses on topics including general principles and clinical applications within those three systems. The format consists of lectures, small group discussions, clinical correlations, and team-based learning sessions. Participation of faculty from both basic and clinical departments will provide an integrated coverage of major topics related to health and disease.

MEDS 522 Skin, Bones & Musculature (7 credits)

Skin, Bone, and Musculature (SBM) is an interdisciplinary course taught by both basic science and clinical faculty, with a strong focus on student-driven interactive learning. SBM consists of three units - Musculoskeletal, Dermatology, and Rheumatology – taught across lectures, small group and team-based learning activities, and dissection in the cadaver lab. The course is designed to equip MSII students with a foundational understanding of musculoskeletal anatomy and pathology, key concepts in Dermatology, and the

pathophysiology of Rheumatological conditions. Course content also includes both pharmacologic and non-pharmacologic therapeutic interventions related to the clinical conditions introduced in each lecture. Beyond the classroom, the course will prepare students for clinical applications of this knowledge during pre-clerkship and clerkship years.

5. Discuss how general education requirements will be met, if applicable.

Not applicable.

6. Identify any specialized accreditation or graduate certification requirements for this program and its students.

There are no specialized accreditation or graduate certification requirements for the proposed M.S. in Medical and Health Studies.

7. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

Not applicable.

8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

The School of Medicine maintains up-to-date information of its degree programs on their site (<https://www.medschool.umaryland.edu/osa/>). Since this program is designed to be an off-ramp offered only to students already enrolled in the doctorate program, it will not be advertised with the currently available UMSOM master's degree programs. The Office of Student Affairs website will have information on the curriculum, course descriptions, and degree requirements. The website has links to information about the learning management system, support services, and financial aid already. We affirm that the same information will be available for existing students in the proposed M.S. in Medical and Health Studies.

9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The University of Maryland School of Medicine will not advertise, recruit, or use the Office of Admissions for this program. The program is designed as an off-ramp program for students already accepted and matriculated into the Doctorate Program who have already completed the required courses. The M.S. program will be offered to any student who is

academically unable or no longer desires to continue in the doctorate level curriculum. The School of Medicine materials and information will accurately represent the M.S. in Medical and Health Studies.

H. Adequacy of Articulation

Not applicable.

I. Adequacy of Faculty Resources

- 1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of the faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.**

The M.S. Medical and Health Studies will be directed by the Office of Student Affairs and the Co-Program Directors will be the Associate and Assistant Dean for Student Affairs.

Name	Terminal Degree and Discipline	Rank and FT/PT Status
UMB Faculty		
Kerri Thom	MD, MS	Professor, FT
Elizabeth Lamos	MD	Associate Professor, FT

Many teaching faculty from all departments both clinical and science within the School of Medicine will be involved in teaching. Each course includes a course director, section leaders, and embedded content leads. The following Table includes the course directors who oversee the numerous teaching faculty.

The following Table summarizes information about the faculty who will be responsible for designing and instructing coursework in the M.S. in Medical and Health Studies:

Name	Terminal Degree	Rank and FT/PT Status	Discipline	Course
UMB Faculty				
Joseph Martinez	MD	Professor, FT	Office of Medical Education, Internal Medicine, Emergency Medicine	MED 510
Kerri Thom	MD	Professor, FT	Office of Student Affairs, Epidemiology	MED 510
Rachel Fanaroff	MD	Assistant Professor, FT	Pathology	MEDS 511
Nicholas Carbonetti	PhD	Professor, FT	Microbiology and Immunology	MEDS 512
Madhurima Koka	MD, PhD	Associate Professor, FT	Pathology	MEDS 512
Prachi Mehndiratta	MBBS	Associate Professor, FT	Neurology	MEDS 513

Seema Patil	MD	Associate Professor, FT	Internal Medicine, Gastroenterology	MEDS 514
Norman Retener	MD	Assistant Professor, FT	Internal Medicine	MEDS 517
Afrah Abdul Whalid Ali	MBBS	Assistant Professor, FT	Emergency Medicine	MEDS 520
Neerja Murali	DO	Assistant Professor, FT	Emergency Medicine	MEDS 520
William Grier	MD	Assistant Professor, FT	Internal Medicine, Pulmonology Critical Care	MEDS 521
Neil Agarwal	MD	Assistant Professor, FT	Internal Medicine, Nephrology	MEDS 521
Leen Alblaihed	MBBS, MHA	Assistant Professor, FT	Emergency Medicine	MEDS 521
Ami Patel	MD	Clinical Associate Professor, PT	Internal Medicine, Nephrology	MEDS 521
Idris Amin	MD	Assistant Professor	Neurology, Orthopedics	MEDS 522

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:

UMB has a robust process for training faculty and ensuring effective instruction. Based on Quality Matters standards, UMB developed a rubric which details the best practices for distance education; this rubric helps faculty and instructional designers create the courses; assesses the readiness of the course and ensures that the online courses are instructionally and pedagogically sound. The best practices are a synthesis of strategies, activities, design techniques, and organizational items that have been successful in higher education. The specific domains of this checklist are as follows:

- Course overview and introduction to the students
- Course organization and design
- Learning Objectives (competencies)
- Instructional Materials
- Learner Communication, Interaction and Collaboration
- Assessment and Evaluation (measurement)
- Course Technology
- Learner Support

MedScope is a Learning Management System (LMS) and Student Information System (SIS) that was developed by the University of Maryland School of Medicine for use within the Doctor of Medicine program. The MedScope portal provides access to various internal resources, information, and tools for students, faculty, and staff, including academic calendars, course materials, announcements, and links to other services relevant to the

medical school's community. The portal is designed to support the administrative and educational needs of the university's medical doctor program. Those needs include but are not limited to statistical data to track performance related to courses, students, and faculty. The MedScope application is configured to integrate with other third-party applications used by the Medical School such as Banner, MedHub, Examssoft, etc., which allows data from those respective applications to be viewed all from the single MedScope platform.

J. Adequacy of Library Resources

The University of Maryland Health Sciences and Human Services Library (HSHSL) serves as a hub for collaboration and learning on the UMB campus and is one of the largest health sciences libraries in the United States both physically and by collection size. Opened in 1998, the HSHSL building is fully equipped with Wi-Fi and has seating for over 900 users including 41 group study rooms, three computer classrooms, an Innovation Space that includes 3D printers, a presentation and production studio, art gallery, and technology-enhanced meeting and collaboration spaces. The HSHSL website (www.hshsl.umaryland.edu) provides access to a range of resources and services.

The library provides access to 108 databases, 4,737 e-journals, 17,669 e-books, and maintains a collection of 144,416 print books and 7,586 archival print journals. Through the library's interlibrary loan and document delivery services, faculty, staff, and students may acquire articles and other resources not available through the library's collections. The HSHSL also provides access to the UMB Digital Archive, an open access university repository hosting university created research including white papers, research posters, and more.

The HSHSL has a history of innovative and user-centered services. With a team of 26 faculty librarians and 28 library staff, the HSHSL serves UMB's 6,900 students and over 8,000 faculty and staff members in the schools of dentistry, medicine, nursing, pharmacy, social work, and graduate studies. The library also provides access and services to the University of Maryland Medical Center (UMMC) and other affiliated institutions. The library's [suite of research services](#) is available for all programs on campus, and includes research and publication strategy consultations, systematic review and expert literature searching services, research impact assessment, public access policy compliance review, and other research services as requested. The library's Center for Data and Bioinformation Services offers consultations and workshops on data access, management, and sharing, as well as support for bioinformatics research, including information on high throughput sequence analysis, DNA, RNA, protein data resources, and research computing.

The HSHSL is home to the National Network of Libraries of Medicine (NNLM) Region 1, an outreach program of the National Library of Medicine, whose mission is to advance the progress of medicine and improve public health and access to health information. The HSHSL has held this competitive and prestigious grant funded designation for over 35

years. In 2021, the HSHSL was also selected to host the NNLM Network Web Services Office (NWSO), which develops and maintains web services for all seven NNLM Regions and other NNLM centers. Through its outreach programming the NNLM Region 1 and the HSHSL regularly reach over 3,000 community members and unaffiliated groups through free workshops, exhibits, and presentations on topics including health literacy, data management, and citizen science.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment

UMB's 65-acre research and technology complex encompasses 57 buildings in west Baltimore near the Inner Harbor. Faculty have offices provided within their respective departments. UMB has adequate facilities, infrastructure, and equipment to support any learning needs of the master's program. Students will have full access to the computing facilities and student services at UMB. Students already have School of Medicine e-mail and library accounts and will have complete journal searching ability via PubMed. UMB possesses computing facilities that include a networked computing environment for support of a broad range of information technology functions, including basic research, clinical research, patient information and general office management.

L. Adequacy of Financial Resources with Documentation

This program requires no new expenses or costs associated with IT, faculty, or infrastructure. The funding for this program is already budgeted and funded through the School of Medicine doctoral program. There are no new faculty appointments for this program which relies on existing faculty. There is no new additional revenue for UMSOM.

TABLE 1: PROGRAM RESOURCES					
Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated Funds	\$0	\$0	\$0	\$0	\$0
2. Tuition/Fee Revenue (c +g)	\$122,754	\$126,437	\$130,230	\$178,849	\$184,214
a. Number of F/T Students*	3	3	3	4	4
b. Annual Tuition/Fee Rate	\$40,918.00	\$42,145.54	\$43,409.91	\$44,712.20	\$46,053.57
c. Total F/T Revenue (a x b)	\$122,754.00	\$126,436.62	\$130,229.72	\$178,848.81	\$184,214.28
d. Number of P/T Students	0	0	0	0	0
e. Credit Hour Rate	\$0	\$0	\$0	\$0	\$0
f. Annual Credit Hour Rate	0	0	0	0	0
g. Total P/T Revenue (d x e x f)	\$0	\$0	\$0	\$0	\$0
3. Grants, Contracts & Other External Sources	\$0	\$0	\$0	\$0	\$0
4. Other Sources	\$0	\$0	\$0	\$0	\$0
TOTAL (Add 1 – 4)	\$122,754	\$126,437	\$130,230	\$178,849	\$184,214
TABLE 2: PROGRAM EXPENDITURES:					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c) x a	\$179,900	\$183,498	\$187,168	\$229,094	\$194,730

a. Number of FTE	0.5	0.5	0.5	0.6	0.5
b. Total Salary	\$350,000	\$357,000	\$364,140	\$371,423	\$378,851
c. Total Benefits	\$9,800	\$9,996	\$10,196	\$10,400	\$10,608
2. Admin. Staff (b + c) x a	\$8,688	\$8,948	\$9,217	\$13,290	\$9,778
a. Number of FTE	0.05	0.05	0.05	0.07	0.05
b. Total Salary	\$125,000	\$128,750	\$132,613	\$136,591	\$140,689
c. Total Benefits	\$48,750	\$50,213	\$51,719	\$53,270	\$54,869
3. Support Staff (b + c) x a	\$4,865	\$5,011	\$5,161	\$5,316	\$5,476
a. Number of FTE	0.05	0.05	0.05	0.05	0.05
b. Total Salary	\$70,000	\$72,100	\$74,263	\$76,491	\$78,786
c. Total Benefits	\$27,300	\$28,119	\$28,963	\$29,831	\$30,726
4. Technical Support and Equipment	\$5,000	\$2,000	\$2,000	\$2,000	\$2,000
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
TOTAL (Add 1 – 7)	\$208,453	\$209,457	\$213,546	\$259,700	\$221,983

The tables represent a budget that assumes that no students are independently admitted to this program. Students will be admitted and graduate from M.S. in Medical and Health Studies program in the year it is approved (typically Year 2) with the assumption that 3 or 4 students will take advantage of this opportunity annually. We have used only in-state tuition per year. The cost remains neutral to the School of Medicine. Funds from the medical doctorate program are reallocated to support this program.

M. Adequacy of Provisions for Evaluation of Program

Students will have the opportunity to evaluate courses and faculty through a standard evaluation of every course. Our approach includes ensuring that student learning is in alignment with course learning outcomes, alignment of mission at institutional and program levels, alignment of mission with learning outcomes, then program outcomes with curriculum, flowing down to course outcomes and assignments. Assessment activities emphasize analysis of results and feedback loops for continuous improvement.

N. Consistency with the State’s Minority Student Achievement Goals

UMB is strongly committed to cultural diversity and the recruitment and retention of underrepresented minority students. UMSOM will ensure that students who are underrepresented in medicine are aware of the program and afforded the opportunity to pursue this off-ramp M.S. should the opportunity present itself.

O. Relationship to Low Productivity Programs Identified by the Commission

The proposed M.S. is not directly related to an identified low productivity program identified by the Maryland Higher Education Commission.

P. Adequacy of Distance Education Programs

Context of Online Education at UMB

Not applicable.

Supporting Students in Distance Education

Not applicable.

Evaluation and Assessment of Online Courses

Not applicable.

TOPIC: University of Maryland, Baltimore (UMB) proposal for a Master of Science (MS) degree in Artificial Intelligence (AI) for Drug Development

COMMITTEE: Committee on Education Policy and Student Life and Safety

DATE OF MEETING: December 3, 2024

SUMMARY: The Artificial Intelligence for Drug Development (AIDD) graduate program uniquely combines interdisciplinary research and interprofessional education by integrating cutting-edge AI technologies with pharmaceutical sciences. Through its curriculum, students gain a deep understanding of AI's role in advancing drug development, preparing them to excel in clinical care and practice by leveraging AI-driven strategies for improved patient outcomes.

AI has the potential to revolutionize the drug development process by accelerating the identification of drug candidates, predicting their efficacy and safety profiles, and optimizing clinical trial designs. A graduate program focused on advanced AI techniques will attract top talent to the state, both domestically and internationally, which will ensure that Maryland remains at the cutting edge of drug development and research.

In drug development, AI technologies like natural language processing and machine learning play a crucial role in accelerating processes. The AIDD Program aims to equip professionals with a comprehensive understanding of AI's applications, limitations, and opportunities in pharmaceuticals. Participants explore techniques across various stages, from setting drug development strategy to clinical trial optimization. These skills are becoming critical for a highly skilled workforce in Maryland for the biotech industry and regulatory agencies.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the UMB proposal for an MS in AI for Drug Development.

COMMITTEE ACTION: DATE: December 3, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Alison Wrynn, awrynn@usmd.edu; 301-445-1992



Dr. Roger J. Ward, EdD, JD, MSL, MPA
Provost and Executive Vice President

Office of the Provost
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410 706 2477

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November 15, 2024

Jay A. Perman, MD
Chancellor
University System of Maryland
3300 Metzerott Road
Adelphi, MD 20783

Dear Chancellor Perman:

On behalf of the University of Maryland, Baltimore please find attached our proposal to establish a new Academic Program, *Master of Science in Artificial Intelligence for Drug Development*, within the School of Pharmacy.

The Artificial Intelligence for Drug Development (AIDD) graduate program uniquely combines interdisciplinary research and interprofessional education by integrating cutting-edge AI technologies with pharmaceutical sciences. Through its curriculum, students gain a deep understanding of AI's role in advancing drug development, preparing them to excel in clinical care and practice by leveraging AI-driven strategies for improved patient outcomes

AI has the potential to revolutionize the drug development process by accelerating the identification of drug candidates, predicting their efficacy and safety profiles, and optimizing clinical trial designs. A graduate program focused on advanced AI technique will attract top talent to the state, both domestically and internationally, which will ensure that Maryland remains at the cutting edge of drug development and research. This influx of skilled professionals would benefit not only the biotech sector but also Maryland's academic and healthcare communities, fostering collaborations that drive innovation and economic growth.

Should you require additional information, please contact Meghan Bruce Bojo, Executive Director of Academic Administration, at mbojo@umaryland.edu or 410-706-2055.

Regards,

A handwritten signature in black ink, appearing to read "Roger J. Ward".

Dr. Roger J. Ward, JD, MSL, MPA
Provost and Executive Vice President

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- Cooperative Degree Program
- Within Existing Resources, or
- Requiring New Resources

University of Maryland, Baltimore

Institution Submitting Proposal

Master of Science in Artificial Intelligence for Drug Development
Title of Proposed Program

Master of Science in Artificial Intelligence for
Drug Development

Fall 2025

Award to be Offered

Projected Implementation Date

51.2006

Proposed HEGIS Code

Proposed CIP Code

University of Maryland Baltimore School of
Pharmacy

Meghan Bruce Bojo

Department in which program will be
located

Department Contact

410-706-2055

mbojo@umaryland.edu

Contact Phone Number

Contact E-Mail Address



November 15, 2024

Signature of President or Designee

Date

**A PROPOSAL FOR A NEW ACADEMIC PROGRAM at THE UNIVERSITY OF MARYLAND, BALTIMORE
SCHOOL OF PHARMACY: MASTER OF SCIENCE IN ARTIFICIAL INTELLIGENCE FOR DRUG DEVELOPMENT**

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A. Centrality to institutional mission statement and planning priorities

- 1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.**

The University of Maryland, Baltimore (UMB) is the state's public health, law, and human services university devoted to excellence in professional and graduate education, research, patient care, and public service. As a diverse community of outstanding faculty, staff, and students, and using state-of-the-art technological support we educate leaders in health care delivery, biomedical science, global health, social work, and the law. We emphasize interdisciplinary education and research in an atmosphere that explicitly values civility, diversity, collaboration, teamwork, and accountability. By conducting internationally recognized research to cure disease and to improve the health, social functioning, and just treatment of the people we serve, we foster economic development in the city, state, and nation.

The University of Maryland School of Pharmacy is pleased to submit a proposal for a new Master of Science (MS) in Artificial Intelligence for Drug Development. To be successful, the learner must complete all required and elective coursework totaling 30 credits. This is an online program and will include synchronous (e.g., live) and asynchronous (e.g., pre-recorded) lectures, readings, and reflections, along with active learning elements, including discussion boards and individual and group assignments. The role of artificial intelligence (AI) in drug development is transformative, enhancing the capabilities of pharmaceutical leaders and researchers. The key focus of the program will be on AI-enabled Predictive Analytics. As manual analysis of expanding patient data becomes impractical, AI emerges as a powerful tool to augment existing methodologies. It has already revolutionized drug development, treatment optimization, and patient care.

In drug development, AI technologies like natural language processing and machine learning play a crucial role in accelerating processes. The AI for Drug Development program aims to equip professionals with a comprehensive understanding of AI's applications, limitations, and opportunities in pharmaceuticals. Participants explore techniques across various stages, from setting drug development strategy to clinical trial optimization, empowering them to effectively leverage AI for more efficient drug development.

This program will be offered at UMB. The eight graduate-level required courses in the program cover the principles of drug development, AI and machine learning (ML) methodology, and applications to drug development strategy, pharmacovigilance, precision medicine and clinical trial optimization. The special topics course allows the students to learn the applications of AI/ML to other areas of drug development, regulatory policies, and ethics.

The proposed degree is consistent with and will advance the mission of the University of Maryland, Baltimore. Through this new program, we will provide our students with the knowledge and skills needed to make a positive impact on communities in Maryland and beyond.

2. Explain how the proposed program supports the institution’s strategic goals and provide evidence that affirms it is an institutional priority.

The proposed Master of Science degree will advance UMB’s mission *“to improve the human condition and serve the public good of Maryland and society at-large through education, research, clinical care, and service.”* Additionally, the program contributes to the fulfillment of related strategic goals for UMB, in a number of significant ways:

- A key university strategic theme is to *“excel at interdisciplinary research and interprofessional education, clinical care and practice, and public service.”* The Artificial Intelligence for Drug Development (AIDD) graduate program uniquely combines interdisciplinary research and interprofessional education by integrating cutting-edge AI technologies with pharmaceutical sciences. Through its curriculum, students gain a deep understanding of AI's role in advancing drug development, preparing them to excel in clinical care and practice by leveraging AI-driven strategies for improved patient outcomes. Furthermore, the program's emphasis on AI's potential for accelerating drug development and enhancing pharmacovigilance aligns with the goal of serving the public by delivering safer and more effective therapeutics. It is critical to ensure this highly specialized training provides unique workforce development for Maryland, especially to ensure the skills needed for the continued growth of both the biotech industry and regulatory agencies (e.g., FDA)
- Another strategic theme of the university is *“innovative curricular and co-curricular initiatives that multiply pathways to diverse careers and leadership opportunities inside and outside of academia.”* The AIDD graduate program offers innovative coursework that combines advanced AI concepts with pharmaceutical sciences, providing students with a unique skill set for diverse career paths in academia, government, and industry. Through application-oriented learning opportunities, the program fosters leadership skills and offers pathways for students to engage in real-world drug development projects, preparing them for leadership roles. The emphasis on cutting-edge AI technologies in drug development aligns with the goal of multiplying pathways to diverse careers by equipping graduates with the expertise needed to excel in emerging fields at the intersection of AI and pharmaceuticals, and meeting workforce needs.
- And finally, the MS in AI for Drug Development will infuse innovations in instructional design throughout the curriculum, thus creating an accessible, relatable, and sustainable education program that responds to the needs and characteristics of the learner. This aligns specifically with the university’s strategic goal *“on the importance of creating accessible education for individuals already engaged in their professions and developing productive discovery-to-delivery research model that serves as a catalyst for economic development.”*

3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation.

The program will draw upon existing resources. The School of Pharmacy already has qualified faculty and offers PharmD, PhD, and Master of Science Degrees in Regulatory Science, Pharmacometrics, Palliative Care, Pharmaceutical Sciences, and Pharmaceutical Health Services Research. The school has the administrative and advising infrastructure for students.

4. **Provide a description of the institution’s commitment to:**
- a) **ongoing administrative, financial, and technical support of the proposed program**
 - b) **continuation of the program for a period of time sufficient to allow enrolled students to complete the program.**

The School of Pharmacy has the administrative, instructional, advising, and facilities infrastructure in place to operate the program. In the event that the program is discontinued, the courses will be offered for a reasonable time period so that enrolled students can finish. The faculty and administrative infrastructure will still be in place to work with students who have not finished the program.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan

Artificial intelligence (AI) is transforming society and work in myriad ways, and the pace of that change will continue to accelerate - unlocking new opportunities and risks for Maryland's residents, workers, and economy.¹ A graduate program focused on AI for drug development is crucial for Maryland given its strong positioning within the biotechnology and pharmaceutical industries. With companies like Emergent BioSolutions, Novavax, and AstraZeneca, and federal research organizations such as the NIH and FDA, Maryland is a key player in drug discovery. This program will solidify the state’s status as an innovation leader in life sciences and supports Maryland's broader economic development goals, which focus on promoting innovation, creating high-paying jobs, and strengthening the state's competitive edge in the life sciences sector. By offering a specialized program in AI for drug development, Maryland can further solidify its position as a hub for innovation in life sciences aligning with the Maryland State Plan for Higher Education goal three innovation, priority 8, promoting a culture of risk-taking by fostering innovation in all aspects of Maryland higher education to improve access and student success.

AI has the potential to revolutionize the drug development process by accelerating the identification of drug candidates, predicting their efficacy and safety profiles, and optimizing clinical trial designs. A graduate program focused on advanced AI technique will attract top talent to the state, both domestically and internationally, which will ensure that Maryland remains at the cutting edge of drug development and research. By training a diverse cohort of students, the program could address underrepresentation in the biotech industry, fostering diversity and inclusion within Maryland’s workforce. This influx of skilled professionals would benefit not only the biotech sector but also Maryland’s academic and healthcare communities, fostering collaborations that drive innovation and economic growth.

A graduate program in AI for drug development will create a pipeline of skilled professionals who can contribute to the growth of existing companies and the establishment of new startups in Maryland. This will lead to job creation and increased economic prosperity for the state. Collaborations with local industry partners would provide students with real-world experience and networking opportunities, enhancing their career prospects, and enriching Maryland's biotech ecosystem which aligns with priority 7, enhance the ways postsecondary education furthers lifelong learning. Maryland’s proximity to federal agencies like the FDA and NIH makes it an ideal location for a graduate program in AI for drug development. Partnerships with these agencies could offer students valuable insights into regulatory processes and access to critical resources for research.

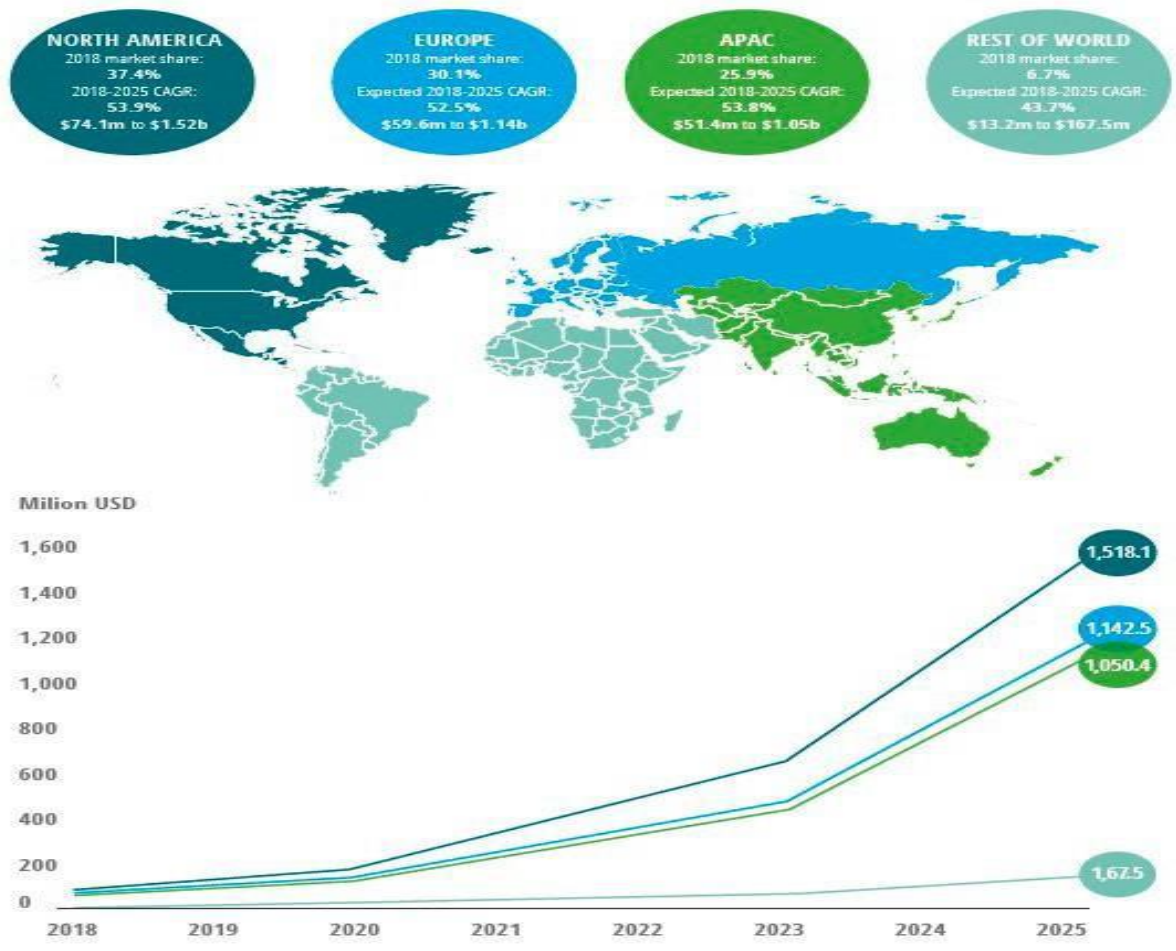
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https://governor.maryland.gov/Lists/ExecutiveOrders/Attachments/31/EO%2001.01.2024.02%20Catalyzing%20the%20Responsible%20and%20Productive%20Use%20of%20Artificial%20Intelligence%20in%20Maryland%20State%20Government_Accessible.pdf

C. Quantifiable and reliable evidence and documentation of market supply and demand in the region and state:

The following section summarizes the AI industry, including market projections, and also provides workforce needs and projections in the state of Maryland, the northeast region, and nationally.²

According to MarketsandMarkets, the market for AI in the biopharma industry is expected to increase from US\$198.3 million in 2018 to US\$3.88 billion in 2025, with a compound annual growth rate (CAGR) of 52.9 per cent. These values vary across the four regions: North America, Europe, Asia- Pacific (APAC) and Rest of World (RoW), which includes South America, Africa, and the Middle East.



Note: All dollar amounts are in US dollars. source: MarketsandMarkets, 2018.

Figure 1 Expected growth in the AI market in pharmaceutical industry, 2018-2025 (excerpt from Deloitte report “Intelligent biopharma: Forging the links across the value chain”).

² <https://www.whitehouse.gov/wp-content/uploads/2022/12/TTC-EC-CEA-AI-Report-12052022-1.pdf>

The largest future job gains are expected to be in healthcare, an industry that already has an imbalance, with 1.9 million unfilled openings as of April 2023. It is estimated that there could be demand for 3.5 million more jobs for professionals in the healthcare sector. In the areas of healthcare and STEM professionals, the backbone of pharmaceutical innovations, McKinsey reported a 83% increase in job demand.

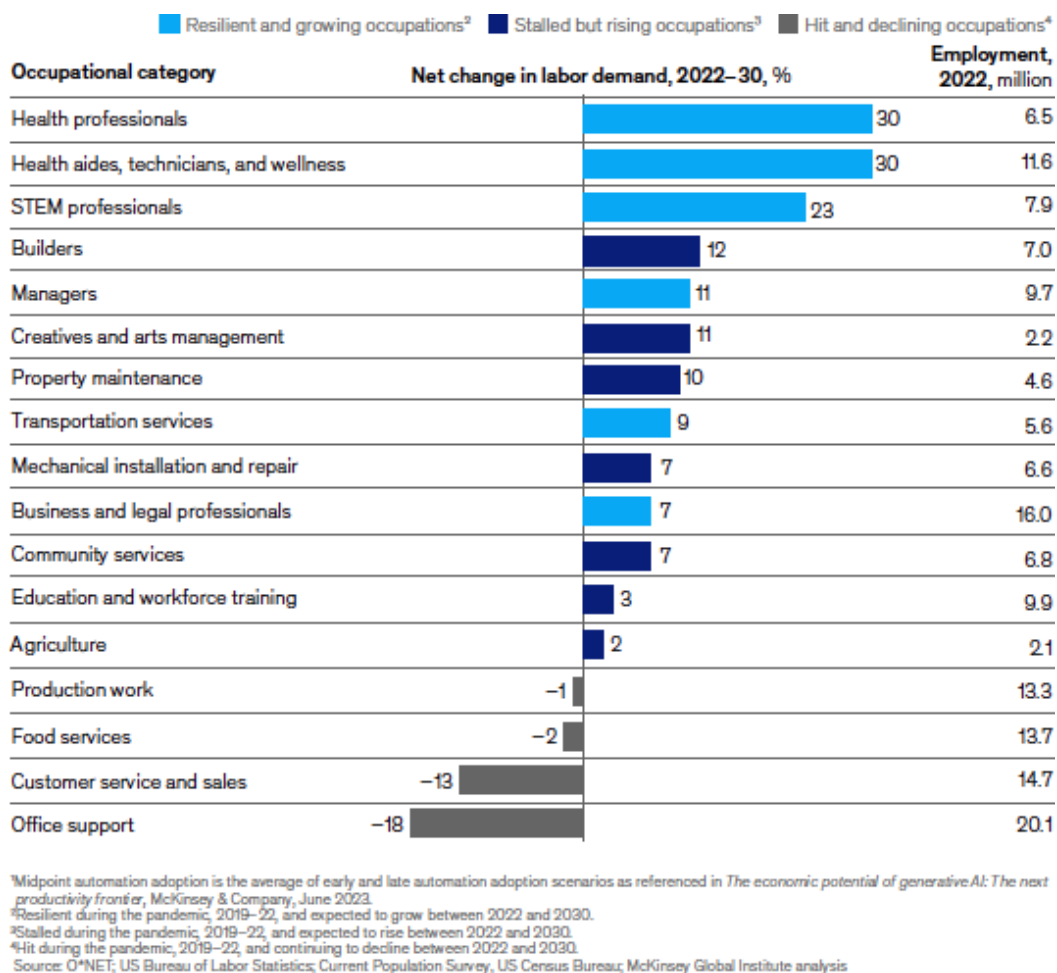


Figure 2 Estimated future US job growth by occupational category. (excerpt from McKinsey report “Generative AI and the future of work in America, July 2023”).

California accounted for almost one-fifth of all AI job postings in 2023. A small number of the states dominate AI job postings. In 2023, the Top 10 states (CA, TX, VA, NY, MA, WA, IL, FL, PA, NJ) accounted for two-thirds (67.0%) share of all AI job postings. In contrast, the bottom 10 states accounted for only 1.24% share of all AI job postings. Three factors appear to drive a state’s share of AI job postings: (a) the state’s size in terms of population and economy (e.g., CA, TX, FL, NY, IL, PA); (b) the state being the domicile for some of the world’s leading AI universities (e.g., CA, MA, NY); and (c) the state’s role as host to major AI-driven industries (e.g., CA: information services, semiconductors, biotech; NY: finance and media; and VA: defense and aerospace). Stripping out the effects of sheer size, AI Jobs Intensity (ratio of AI to all job postings) yields a different picture. Compared to the aggregated US-level AI Jobs

Intensity of 0.56%, Washington DC ranks #1 at 1.75%, followed by VA at 1.36%, with MD not too far behind at 0.83%.

Rank	State	Value
1	DC	1.75%
2	VA	1.36%
3	WA	1.20%
4	CA	1.10%
5	MA	1.02%
6	NY	0.97%
7	MD	0.83%
8	NJ	0.76%
9	CT	0.60%
10	DE	0.58%
11	IL	0.56%
12	TX	0.53%
13	GA	0.50%
14	PA	0.50%
15	CO	0.49%
16	RI	0.47%
17	UT	0.46%
18	AR	0.45%
19	NC	0.45%
20	MN	0.43%
21	MI	0.38%
22	OH	0.34%
23	AZ	0.33%
24	HI	0.32%
25	OR	0.31%
26	FL	0.31%

Rank	State	Value
27	AL	0.30%
28	MO	0.29%
29	ID	0.27%
30	VT	0.25%
31	NE	0.24%
32	IN	0.22%
33	NV	0.22%
34	NM	0.22%
35	TN	0.21%
36	NH	0.20%
37	IA	0.19%
38	WI	0.19%
39	OK	0.18%
40	LA	0.17%
41	KS	0.17%
42	MT	0.17%
43	WV	0.17%
44	ME	0.16%
45	SC	0.15%
46	KY	0.15%
47	SD	0.14%
48	ND	0.13%
49	MS	0.11%
50	WY	0.10%
51	AK	0.08%

U.S. Total, AI Jobs Intensity = 0.56%

Source: UMD-LinkUp AI Maps Project

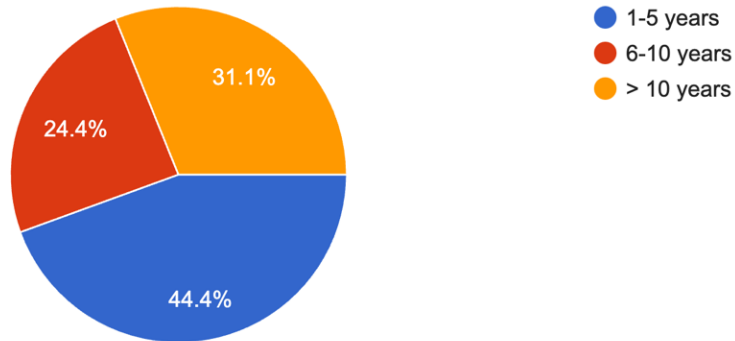
Table 1 State's AI jobs intensity (ratio of AI to all jobs postings) during Jan-Dec 2023

Education and the AI in Drug Development Workforce

University of Maryland School of Pharmacy conducted a survey among current professionals (N=43) in the pharmaceutical sector working either at a company, academic institution, or government organization. More than 80% of the professionals identified that they do not have expertise in AI but have some knowledge. A similar number opined that AI has the potential to significantly impact drug development; of which more than 40% thought AI has a transformative potential. Importantly, more than 90% recognized there is a need for professionals trained in the application of AI to drug development in the pharmaceutical industry. Almost all the survey participants indicated they prefer an online training program.

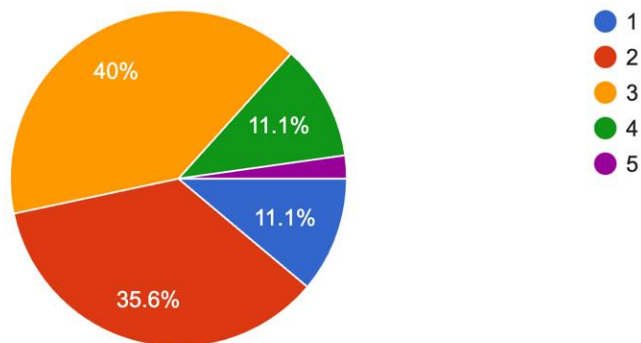
Which best describes your drug development experience?

45 responses



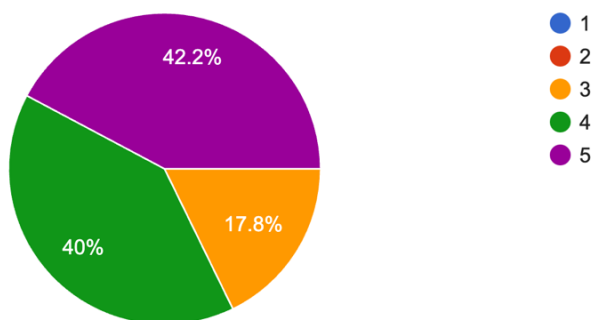
How familiar are you with artificial intelligence (AI) technologies? [1=not at all; 5=expert]

45 responses



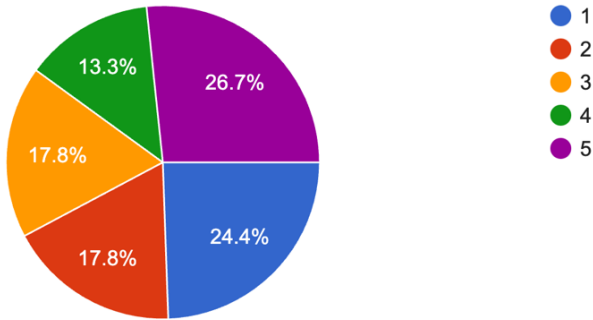
Do you believe AI has the potential to significantly impact drug development processes? [1=no potential; 5=transformative potential]

45 responses



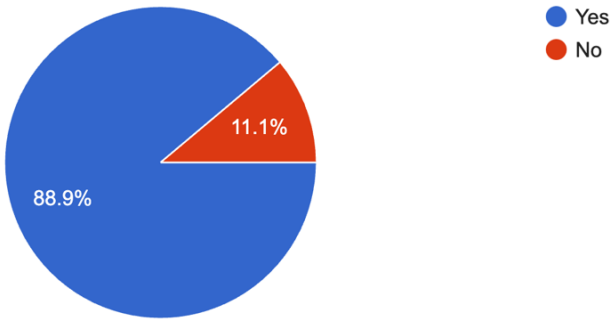
How likely are you to pursue further education in the next two years? [1=not likely; 5=very likely]

45 responses



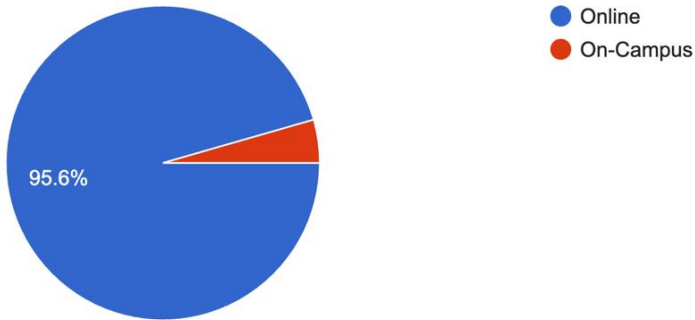
Do you think there is a need for professionals trained in the application of AI to drug development in the pharmaceutical industry?

45 responses



Would you prefer an online or on-campus program for a Masters in AI for drug development?

45 responses



D. Reasonableness of program duplication

University of Maryland School of Pharmacy conducted a careful review of AI-related programs offered by other institutions in the State of Maryland. Currently, there are no graduate programs dedicated to the application of AI for drug development. Most of the institutions offer selected courses in AI, and not full-fledged programs. Bowie State University and Morgan State University offer Master’s or Certificate programs in AI/ML. Their programs are focused on general applications of AI such as in the fields of finance, economics, engineering, and robotics. The proposed Master’s in AI for drug development is an advanced degree in a highly focused area of drug development. The following table lists related but distinctly different certificate or degree programs offered at other Maryland institutions.

College	Program	Target Students	Comments
Bowie State University – Computer Science	Artificial Intelligence (AI) and Machine Learning (ML) For ALL for high school students.	The Department of Computer Science has a unique in this country course on AI&ML for the general public, including high school students. Participants will solve real problems in finance and economics, engineering, and healthcare.	UMB’s MS program is an advanced degree in a highly focused area of drug development. Aimed at high school students.
Bowie State University – Computer Science	Certificate – Database Management/Artificial Intelligence Track	The Certificate Program in Computer Science is a post-baccalaureate program designed to strengthen the expertise of professionals in key computer science areas. Graduates of the program will be better able to contribute to the increasingly technological work environment of the local economy.	UMB’s MS program is an advanced degree in a highly focused area of drug development.
Bowie State University – Computer Science	MS [Artificial Intelligence/Machine Learning Specialization]	Artificial intelligence (AI) includes the study of AI principles and techniques, as well as foundational material on topics such as logic, probability, and language. Topics in the AI concentration include knowledge representation and logical reasoning, robotics, machine learning, probabilistic modeling and inference, natural language processing, cognition, and applications.	UMB’s MS program is an advanced degree in a highly focused area of drug development. BSU’s MS program is more general and not specific to drug development.
Morgan State University – Computer Science	The Master of Science (M.S.) in Advanced Computing	The MS in Advanced Computing program preserves the core of Computer Science (CS) while possessing unique strength in emerging interdisciplinary areas in Cybersecurity, Artificial Intelligence, Data Science and Cloud Computing.	UMB’s MS program is an advanced degree in a highly focused area of drug development. MSU has one course on general principles of AI, not an entire graduate program dedicated to AI.
University of Maryland College Park - College of Computer, Mathematical and Natural Sciences	MS [Applied Machine Learning]	The MS in Applied Machine Learning focuses on the methods and techniques of creating models and algorithms that learn from, and make decisions or predictions, based on data. Successful graduates will apply the learned tools and techniques to a wide variety of real-world problems in areas such as marketing, finance, medicine, telecommunications, biology, security, engineering, social networking, and information technology.	UMB’s MS program is an advanced degree in a highly focused area of drug development. The UMD-College Park MS program is more general and has varied applications in multiple fields. It is not specific or focused on drug development.

University of Maryland College Park – Robert H. Smith School of Business	12-month executive certificate – Data Science and Machine Learning	Executive post-graduate program certificate provides comprehensive curriculum such as inferential statistics, machine learning, predictive modeling framework to AI and business strategy and data-driven story telling.	UMB’s MS program is an advanced degree in a highly focused area of drug development. UMD-College Park certificate program is tailored for data science in general and not specific to drug development.
University of Maryland College Park – Robert H. Smith School of Business	7-month professional certificate – Data Science and Business Analytics	Professional certificate program that provides comprehensive curriculum covering as inferential statistics, machine learning, predictive modeling and data- driven story telling.	UMB’s MS program is an advanced degree in a highly focused area of drug development. UMD-College Park certificate program is tailored business analytics in general and not specific to drug development.
University of Maryland College Park – Robert H. Smith School of Business	7-month professional certificate – Machine Learning and Artificial Intelligence	Designed for technical professionals with a Data Analytics background who are interested in developing a 360-degree skill profile in Machine learning and Artificial intelligence.	UMB’s MS program is an advanced degree in a highly focused area of drug development. UMD-College Park certificate provides general introduction to AI and ML techniques but is not heavily focused on application-based learning within drug development.

E. Relevance to High-Demand Programs at Historically Black Institutions (HBIs)

Bowie State University, Coppin State University, Morgan State University, and University of Maryland Eastern Shore do not offer master’s degree programs similar to our proposed program.

F. Relevance to the identity of Historically Black Institutions (HBIs)

The proposed program does not have relevance to the identity of HBIs in Maryland.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes

1. Describe how the proposed program was established, and also describe the faculty who will oversee the program.

The role of artificial intelligence (AI) in drug development is transformative, enhancing the capabilities of pharmaceutical leaders and researchers. The key focus of the program will be on AI- enabled Predictive Analytics. As manual analysis of expanding patient data becomes impractical, AI emerges as a powerful tool to augment existing methodologies. It has already revolutionized drug development, treatment optimization, and patient care. In drug development, AI technologies like natural language processing and machine learning play a crucial role in accelerating processes. The AI for Drug Development Program aims to equip professionals with a comprehensive understanding of AI’s applications, limitations, and opportunities in pharmaceuticals. Participants explore techniques across various stages, from setting drug development strategy to clinical trial optimization, empowering them to effectively leverage AI for more efficient drug development. Dr. Joga Gobburu is the program director for the master’s program AI in drug development and will oversee the program. Dr. Gobburu is experienced in artificial intelligence and machine learning, which he has applied to advance pharmacometrics and drug development decision-making. He is a co-founder of PumasAI Inc. and Vivpro Corporation, pioneering companies at the forefront of applying novel innovations in AI/ML to advance pharmacometrics and drug development decision-making.

2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

The main objective of this program is to equip students with comprehensive expertise in applying artificial intelligence to the drug development process. Students will gain both a strong theoretical understanding of AI and practical, hands-on skills with AI tools and methodologies, specifically in predictive analytics, natural language processing, and data analytics. Additionally, the program emphasizes integrating AI seamlessly into each phase of drug development, preparing students to address real-world challenges in precision medicine, regulatory intelligence, and clinical trial optimization.

The educational outcomes include:

Comprehensive Understanding of AI-enabled Solutions in Drug Development

- Provide students with a thorough theoretical foundation in artificial intelligence and its diverse applications in drug development.
- Hands-On Proficiency in AI tools and techniques
- Equip students with practical skills through hands-on experiences with AI tools, programming, and methodologies relevant to drug development. This includes application-oriented exercises in areas like natural language processing, data analytics, and machine learning geared towards Predictive Analytics.

Integration of AI into Drug Development Processes

- Foster the ability to seamlessly integrate AI technologies into various stages of drug development. This involves hands-on assignments that simulate real-world scenarios, emphasizing the predictive analytics' application of AI in tasks such as precision medicine, regulatory intelligence, and clinical trial optimization.

After completing this degree, the graduate will be able to:

1. Develop a deep understanding of artificial intelligence (AI) and machine learning (ML) principles and their applications in drug development.
2. Acquire advanced knowledge of drug development to effectively apply AI in these areas.
3. Gain proficiency in data analytics and bioinformatics techniques for analyzing large-scale biological and clinical data sets.
4. Learn to integrate AI-driven approaches into preclinical and clinical development processes, including patient selection and trial design.
5. Develop skills in regulatory intelligence specific to AI applications in drug development.
6. Collaborate with industry partners on real-world projects to gain practical experience in applying AI to drug development challenges.
7. Cultivate leadership and communication skills to effectively convey AI-driven insights to interdisciplinary teams and stakeholders.
8. Explore ethical and societal implications of AI in drug development, including privacy, bias, and transparency.
9. Prepare for diverse career paths in pharmaceutical industry, academia, regulatory agencies, and AI-driven healthcare startups.

3. Explain how the institution will:

- a) provide for assessment of student achievement of learning outcomes in the program**
- b) document student achievement of learning outcomes in the program**

The School of Pharmacy and UMB’s School of Graduate Studies have a culture and support structure to assess program educational effectiveness. An assessment committee will review each online course annually using the Quality Matters rubric. Student retention and satisfaction and faculty satisfaction will be assessed continuously. Faculty will be provided with initial and annual educational programs to continue their development as online educators.

An advisory committee that represents disciplines from all of the professional schools at UMB has been assembled and reviews and provides feedback on every aspect of program development, which will continue during implementation.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements

Course #	Course Name	Course Description
Required Core Courses (30credits) Students take all eight courses (8/8)		
AIDD 601	Introduction to Drug Development (3 Credits)	This graduate-level course provides a comprehensive overview of the drug development process, from drug discovery to post-marketing surveillance. Students will explore the fundamental principles and practices of drug development, including regulatory requirements, preclinical and clinical testing, pharmacovigilance, and marketing approval processes.
AIDD 602	AI Methodology – I (4 Credits)	The applications of Artificial Intelligence and Machine Learning (AI/ML) methodologies are ubiquitous, and the pharmaceutical industry is rapidly adapting to the AI/ML advancements in drug development. This graduate level course will provide an introductory exploration into the methodology and techniques of AI/ML. Students will learn fundamental concepts, methods, and best practices in AI/ML, including problem formulation, data preprocessing, model selection, evaluation, and interpretation. Students learn and apply supervised learning techniques in this course. Through lectures, hands-on exercises, and real-world case studies, students will gain practical skills to apply AI/ML methodologies to problems relevant to healthcare and drug development domain. The students will learn fundamentals of AI/ML programming using the open-source Python programming language

AIDD 603	AI Methodology – II (4 Credits)	<p>This graduate level course will teach intermediate to advanced level concepts and methodology of AI/ML. Students will continue to learn advanced concepts, and best practices in AI/ML, including problem formulation, data preprocessing, model selection, evaluation, and interpretation. Students learn and apply unsupervised learning techniques and neural networks.</p> <p>Through lectures, hands-on exercises, and real-world case studies, students will gain practical skills to apply AI/ML methodologies to problems relevant to healthcare and drug development domain. The students will learn fundamentals of AI/ML programming using the open- source Python software.</p>
AIDD 604	Drug Development Strategy (4 Credits)	<p>This graduate-level course provides a comprehensive overview of the strategic aspects of drug development, focusing on the critical decisions and considerations that drive successful drug development programs.</p> <p>Students will explore the key principles and practices of drug development strategy, including target product profile, regulatory strategy, market access, and lifecycle management.</p>
AIDD 605	Application of AI/ML to Pharmacovigilance (4 Credits)	<p>This graduate-level course provides an in-depth exploration of the application of Artificial Intelligence (AI) and Machine Learning (ML) techniques to pharmacovigilance, the science and activities related to the detection, assessment, understanding, and prevention of adverse effects or any other drug-related problems.</p> <p>Students will gain a comprehensive understanding of the role of AI/ML in improving pharmacovigilance processes, including adverse event detection, signal detection, risk management, and regulatory reporting. The course will cover fundamental concepts of AI/ML relevant to pharmacovigilance, such as data preprocessing, feature selection, model development, and evaluation.</p>
AIDD 606	Precision Medicine (4 Credits)	<p>In the era of precision medicine, harnessing the power of Artificial Intelligence and Machine Learning (AI/ML) is paramount for making informed and personalized healthcare decisions. This advanced course delves into the cutting-edge methodologies and computational techniques essential for analyzing complex datasets and optimizing treatment strategies tailored to individual patients.</p> <p>Students will explore theoretical foundations and practical applications of AI/ML in precision medicine, focusing on the integration of diverse data sources including genomics and clinical outcomes. Emphasis will be placed on understanding the mechanistic insights derived from molecular data and</p>

		integrating them with statistical models to predict patient responses and optimize treatment regimens. Hands-on sessions will provide students with proficiency in utilizing state-of-the-art AI/ML tools and software platforms for data analysis and visualization. Through case studies and real-world examples, students will develop critical thinking skills to address challenges in personalized healthcare delivery and translate research findings into clinical practice.
AIDD 607	Optimizing Clinical Research (4 Credits)	AI-enabled Optimization of Clinical Research delves into the strategic integration of artificial intelligence tools to streamline and enhance various aspects of clinical research, equipping participants with the skills to optimize trial design, data management, and decision-making processes in the evolving landscape of healthcare research. This cutting-edge program is designed to equip students with the knowledge and skills to harness the power of AI/ML in clinical research settings. Across three dynamic modules, participants will explore diverse topics such as predictive modeling for treatment response, leveraging natural history data for rare diseases, and endpoint selection using digital biomarkers in decentralized clinical trials. Through engaging lectures, real-world applications, and hands-on assignments, participants will gain a deep understanding of how AI/ML techniques can revolutionize clinical research, leading to more efficient trial design, precise patient selection, and improved healthcare outcomes.
PHA 758	Special Topics (3 Credits)	Special Topics will cover contemporary subjects not addressed in other courses, featuring insights from industry and government leaders through invited lectures, providing a unique and comprehensive perspective on emerging themes in the field of AI and drug development.

Plan of Study:

Year	Semester	Course Number	Credits	Course name
1	Fall	AIDD 601	3	Introduction to Drug Development
1	Fall	AIDD 602	4	AI Methodology - I
1	Spring	AIDD 603	4	AI Methodology – II
1	Spring	AIDD 604	4	Drug Development Strategy
1	Summer	AIDD 605	4	Application of AI/ML to Pharmacovigilance
1	Summer	PHAR 758	3	Special Topics
2	Fall	AIDD 606	4	Precision Medicine
2	Fall	AIDD 607	4	Optimizing Clinical Research

5. Discuss how general education requirements will be met, if applicable

Not applicable

6. Identify any specialized accreditation or graduate certification requirements for this program and its students.

There are no specialized accreditation or certification requirements for this program.

7. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

Not applicable

8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

The program will make use of established mechanisms in UMB's School of Graduate Studies and the School of Pharmacy to provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management systems, availability of academic support services and financial aid resources, and costs and payment policies. For example, course materials will be available through Blackboard, a web- interface with which faculty have many years of experience, including with current programs.

Accepted students will have the background, knowledge, and technical skills needed to undertake a distance education program. Minimally, candidates for admission will possess a baccalaureate degree. Target students include health care professionals, scientists, public policy professionals, current medical cannabis professionals, or those who wish to enter this emerging field.

9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The program will be clearly and accurately described on the School of Pharmacy's website and at recruiting events. Recruitment and admissions materials about the program will represent the program and the services available (e.g., need for students to have access to computer that meets the minimum system requirements, broadband internet access, and a headset microphone for participation in web conference).

H. Adequacy of Articulation

Not applicable

I. Adequacy of Faculty Resources

1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

The University of Maryland School of Pharmacy faculty are internationally recognized for their expertise across the entire life cycle of drug development and clinical care. Broad interest areas include medicinal chemistry, pharmaceuticals, pharmacology, clinical care, and pharmaceutical outcomes and policy. These faculty, whose discoveries are impacting the lives of patients around the world, routinely present at national and international conferences, and publish in high impact peer reviewed journals. Many of the faculty hold Fellow status in associations such as the American Association of Pharmaceutical Scientists, the American Chemical Society, and the American College of Clinical Pharmacy, and most serve, or have served, as consulting, associate, or principal editors of leading journals in the field, including *Pharmacology & Therapeutics*, *Journal of Experimental Medicine*, *Clinical Pharmacokinetics*, *Cancer Chemotherapy and Pharmacology*, and many others.

The Department of Pharmaceutical Sciences trains students in the design of new drugs and the study of the biological impact of these drugs in the treatment of diseases and disorders. Further divisions within the department include pharmacology, pharmacodynamics, pharmacokinetics, and pharmacogenomics. Within the Department of Practice, Sciences and Health Outcomes Research, faculty train students to perform a full range of medication decision-making functions to serve as part of the patient's health care team. In addition, faculty prepare students to improve health among diverse populations through drug-related research, education, and community outreach. Students enrolled in the proposed program will receive the highest quality education by faculty who are uniquely positioned to teach in this field.

Faculty Members	Course(s)	Status
<ul style="list-style-type: none"> • Joga Gobburu, PhD, MBA, FAAPS, FCP, FISOP <ul style="list-style-type: none"> ○ Professor ○ Program Director, Master of Science in AI for Drug Development ○ Executive Director of Center for Translational Medicine, UMB 	AIDD 601 AIDD 604 AIDD 605 PHAR 758	Full time
<ul style="list-style-type: none"> • Mathangi Gopalakrishnan, MS, PhD, FCP <ul style="list-style-type: none"> ○ Program Director, Master of Science in Pharmacometrics ○ Associate Professor, Department of Pharmacy Sciences and Health Outcomes Research, University of Maryland School of Pharmacy 	AIDD 602 AIDD 603	Full time
<ul style="list-style-type: none"> • Allison Dunn, PharmD <ul style="list-style-type: none"> ○ Assistant Professor of Department of Pharmacy Sciences and Health Outcomes Research, University of Maryland School of Pharmacy 	AIDD 606 AIDD 607	Full time
<ul style="list-style-type: none"> • Tushar Nitave, MS <ul style="list-style-type: none"> ○ Adjunct Faculty, Department of Pharmacy Sciences and Health Outcomes Research, University of Maryland School of Pharmacy ○ Engineer, Vivpro Corporation 	AIDD 602 AIDD 603	Part time

Dr. Joga Gobburu is a Professor with the School of Pharmacy and the School of Medicine at UMB. He held various positions at the US FDA between 1999 and 2011, where he played a key role in establishing the Division of Pharmacometrics and developing several policies. He is a world-recognized scientific leader in the area of quantitative disease models and their application to decisions. Dr. Gobburu is best known for transforming the field of Pharmacometrics across the world into a decision-supporting science and establishing a Pharmacometrics Fellowship program at the FDA. He received numerous FDA awards, including the Outstanding Achievement Award, and has been recognized with the Outstanding Leadership Award from the American Conference on Pharmacometrics (2008), the Tanabe's Young Investigator Award from the American College of Clinical Pharmacology (ACCP) (2008), and the Sheiner-Beal Pharmacometrics Award from the American Society of Clinical Pharmacology and Therapeutics in 2019. Dr. Gobburu is on the Editorial Boards of several journals and is a Fellow of ACCP, AAPS, and the International Society of Pharmacometrics. He has published over 120 papers and book chapters, and his doctoral dissertation focused on the application of Artificial Neural Networks to drug discovery and development.

Dr. Mathangi Gopalakrishnan is an Associate Professor at the Center for Translational Medicine, University of Maryland School of Pharmacy. Dr. Gopalakrishnan, trained as a quantitative clinical pharmacologist and biostatistician, possesses over 11 years of expertise employing cutting-edge quantitative methodologies, including artificial intelligence and machine learning methods. Her proficiency extends to the domains of clinical trial design and the advancement of precision therapeutics, particularly within pediatric, maternal, and critically-ill patient cohorts. She has experience applying machine learning methods for enrichment trial designs and for personalized clinical decision making. Dr. Gopalakrishnan also possesses experience in drug development strategy and is currently involved in several drug development projects including the development of artificial blood products and medical countermeasures. She has authored more than 60 peer-reviewed publications and is the recipient of American College of Clinical Pharmacy's Best teacher award in 2018. She is also the program director for the online master's program in Pharmacometrics at UMB. She obtained her master's in pharmacy from Birla Institute of Technology and Science, Pilani, India and her Ph.D. in statistics from University of Maryland, Baltimore County.

Dr. Allison Dunn is a Research Assistant Professor at the University of Maryland School of Pharmacy, specializing in the utilization of real-world evidence to inform clinical decision-making and facilitate drug development. With a background in pharmacy practice and pharmacometric modeling, Dr. Dunn aims to bridge the gap between translational research and clinical implementation. Dr. Dunn holds a dual PharmD/MS in Pharmacometrics degree from the University of Maryland School of Pharmacy, where she also completed a post-doctoral fellowship with the Center for Translational Medicine. Her work focuses on using modeling and simulation to support clinical decisions in understudied populations, particularly pediatric and elderly patients. Notable achievements include being awarded grants to leverage AI/ML methodologies to inform digoxin dosing and monitoring strategies in older adults and serving as Principal Investigator on industry projects aimed at optimizing drug development efforts. These endeavors include proving evidence of effectiveness in the face of extensive non-compliance, comprehensive characterization of exposure-response for optimal endpoint selection, and supporting regulatory efforts throughout the drug development life cycle. With memberships in prestigious organizations such as the International Society of Pharmacometrics and the American Society of Clinical Pharmacology and Therapeutics, Dr. Dunn is committed to advancing precision medicine through innovative research endeavors.

Tushar Nitave holds a master's in computer science from Illinois Institute of Technology, with specialization in AI and machine learning. Currently making significant strides at Vivpro Corporation, Mr. Nitave is dedicated to integrating advanced technological solutions into drug development processes. He is a key engineer in designing AI-enabled pharmaceutical regulatory intelligence software. Mr. Nitave will be instrumental in teaching Python programming language to students.

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices

Opportunities to improve teaching and learning in the program will be identified through a program assessment process as described in Section M. UMB's instructional design team will provide instructional training resources, support, and consultations to faculty involved with the proposed program.

Faculty teaching in this program will have access to the instructional design team available on campus to incorporate best practices when teaching in the online environment.

J. Adequacy of Library Resources

UMB's Health Sciences and Human Services Library (HS/HSL) is an excellent resource for faculty and students. The library carries a wide range of digital resources including electronic books, journals, and databases that support academic instruction, and an extensive collection of online interactive resources designed to enhance information literacy. Regular in-person and online training are available in a variety of library-related topics including, but not limited to database use, citation management, effective written communication, and research data management.

Faculty librarians provide extensive expertise supporting instruction, research, and scholarly communication through embedded instruction and personalized research consultations. The School of Pharmacy is assigned a research education and outreach librarian to support academic and research activities, who will provide support to the MS in Artificial Intelligence for Drug Development program. During the program, students will complete a variety of projects and presentations that require the review and interpretation of literature, requiring access to resources and personnel from a distance. The HS/HSL maintains proxy services to provide seamless access to electronic books, online journals, and databases from any location. Online course reserves provide an added mechanism to provide limited access to copyrighted materials licensed for instruction without requiring physical access to materials. To ensure students have the same access to personnel resources during the program, all consultation services are available both on campus and online. The program is to be implemented within existing institutional resources.

The Priddy Library at the Universities at Shady Grove (USG) provides similar workshops, training, and consultation opportunities for students on-campus. Librarians from UMB and USG regularly consult to coordinate resources and access needed to ensure students are fully supported in their academic programs at the Universities at Shady Grove.

K. Adequacy of physical facilities, infrastructure and instructional equipment

The physical facilities, infrastructure, and instructional equipment at the School of Pharmacy are adequate to initiate this program, which will leverage existing distance learning instructional technologies to support program management and curriculum delivery. Enterprise technologies supporting student information management (e.g., Ellucian Banner), Blackboard Learning Management System, and web conferencing technologies (e.g., Blackboard Collaborate and Webex) are supported collaboratively with infrastructure support provided by UMB's Center for Information Technology Services (CITS), School of Pharmacy, and School of Graduate Studies.

Infrastructure and physical facilities within the School of Pharmacy allow course faculty to create and deliver core curriculum elements from existing offices, classrooms, and dedicated studio production space. Faculty and administrative staff computers are configured to conduct web conferences and personal recordings as needed to support the delivery of courses and academic advising. For more advanced audio-visual production needs, the school houses a state-of-the-art production studio. Additional audio-visual studio space is available in the Health Science and Human Services Library for faculty and students to produce on-camera presentations. Facilities and services at the Universities at Shady Grove provide similar capabilities offering state-of-the-art classroom and meeting facilities. Faculty offices and meeting space replicate functionality at Baltimore-based facilities.

Technology application support is available through existing helpdesks and instructional design/technology staff during operating hours at UMB and USG. Additional 24/7 support is available for web conferencing technologies through existing agreements with vendors for faculty, staff, and students. Information technology staff on both campuses coordinate regularly to ensure continuity of service and infrastructure support. In addition, the Faculty Center for Teaching and Learning (FCTL) established in 2019, facilitates evidence-based teaching, learning, and evaluation practices throughout the UMB community. As a central resource for all UMB schools, the center provides support and resources for faculty to enhance their teaching and improve student learning outcomes. The center offers consultations, course design, professional coaching, and media production services, and facilitates the multidisciplinary Graduate Teaching Assistant (GTA) and Online Teaching Community (OTC) programs. The FCTL is a thriving hub of teaching excellence, offering a wide range of programs, services, and resources, and actively contributing to the scholarship of teaching and learning.

L. Adequacy of Financial Resources with Documentation

The program will be implemented within existing institutional resources. New tuition revenues coupled with reallocation of existing funds supporting the Doctor of Pharmacy Program will support the new MS in Artificial Intelligence for Drug Development Program. Fund balance will be used for one-time costs in the first year.

MHEC FORM - Artificial Intelligence for Drug Development					
Resource Categories (Note "Resources", not "Revenue")	Year 1	Year 2	Year 3	Year 4	Year 5
1. Reallocated Funds	\$273,856	0	0	0	0
2. Tuition/Fee Revenue (c + g)	\$470,652	\$941,304	\$907,686	\$907,686	\$907,686
a. Number of F/T Students	0	0	0	0	0
b. Annual Tuition/Fee Rate (15*Credit Hour Rate)	\$16,809	\$16,809	\$16,809	\$16,809	\$16,809
c. Total F/T Revenue (a x b)	\$0	\$0	\$0	\$0	\$0
d. Number of P/T Students	28	56	54	54	54
e. Credit Hour Rate	\$1,121	\$1,121	\$1,121	\$1,121	\$1,121
f. Annual credit hours per P/T student	15	15	15	15	15
g. Total P/T Revenue (d x e x f)	\$470,652	\$941,304	\$907,686	\$907,686	\$907,686
3. Grants, Contracts & Other External Sources (a + b + c)	\$0	\$0	\$0	\$0	\$0
a. Grants	\$0	\$0	\$0	\$0	\$0
b. Contracts	\$0	\$0	\$0	\$0	\$0
c. Other External Sources	\$0	\$0	\$0	\$0	\$0
TOTAL RESOURCES (ADD 1 - 3)	\$744,508.00	\$941,304.00	\$907,686.00	\$907,686.00	\$907,686.00

The unique nature of the program requires 4 FTE faculty and support staff. Ongoing expenditures include library support (curating references and materials not currently in the library), instructional design and instructional technology delivery costs, marketing and recruitment (including travel), assessment, proctors, guest lecturers and IT/software costs. There will also be a periodic need to utilize external consultants to evaluate and update the curriculum over time.

The proforma financial statement assumes tuition rates comparable to our MS Pharmacometrics Program. The program is fairly complex and will require instructional design, marketing, educational technology support, IT support, high amounts of cloud computing and cutting-edge faculty to deliver the program. The school will also incur assessment costs in keeping with its evaluation of the effectiveness of all of its programs.

Table 2: Program Expenditures					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty Expenditures (e + f)	\$586,040	\$586,040	\$586,040	\$586,040	\$586,040
a. Faculty Program Director (Internal)	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
b. Initial Course Development (External)	\$0	\$0	\$0	\$0	\$0
c. Reallocated Faculty Salaries (Internal)	\$445,000	\$445,000	\$445,000	\$445,000	\$445,000
d. Adjunct Faculty (External)	\$0	\$0	\$0	\$0	\$0
e. Total Faculty Salaries	\$455,000	\$455,000	\$455,000	\$455,000	\$455,000
f. Total Benefits (26.1% internal, 8.5% external)	\$131,040	\$131,040	\$131,040	\$131,040	\$131,040
2. Administrative Expenditures (b + c below)	\$52,618	\$116,928	\$116,928	\$116,928	\$116,928
a. # FTE	0.9	2	2	2	2
b. Total Salary (see list)	\$37,800	\$84,000	\$84,000	\$84,000	\$84,000
c. Total Benefits (39.6%)	\$14,818	\$32,928	\$32,928	\$32,928	\$32,928
3. Equipment (AV replc.)	\$17,500	\$57,500	\$45,512	\$45,512	\$45,512
a. Technology (equipment, licensing, etc.)	\$10,000	\$50,000	\$25,512	\$25,512	\$25,512
b. Educational Technology Allocation	\$7,500	\$7,500	\$20,000	\$20,000	\$20,000
4. Library	\$0	\$25,125	\$25,125	\$25,125	\$25,125
5. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
6. Other Expenses	\$88,350	\$155,711	\$134,081	\$134,081	\$134,081
a. Direct Program Expenses	\$10,000	\$40,711	\$50,000	\$50,000	\$50,000
b. IT & Secure Resch Environment System	\$7,500	\$25,000	\$38,000	\$38,000	\$38,000
c. Marketing Costs, Ed Technology & Assessment	\$70,850	\$90,000	\$46,081	\$46,081	\$46,081
7. Contingency Funding	\$0	\$0	\$0	\$0	\$0
TOTAL EXPENDITURES (ADD 1 - 7)	\$744,508	\$941,304	\$907,686	\$907,686	\$907,686

M. Adequacy of Provisions for Evaluation of Program

Extensive curricular mapping has been completed to assure each terminal performance objective in Appendix A is introduced, emphasized, and reinforced through required and elective coursework. Successful completion of coursework will demonstrate student achievement of performance objectives. Best practices will be emphasized with liberal use of examples, how to operationalize these techniques, and how to assess success. Faculty will be instructed on “Standards from the QM [Quality Matters] Higher Education Rubric, Sixth Edition” including the eight standards, which cover 42 elements of assessment for an online course. An Assessment Committee will review each online course annually using this rubric to assure quality. If necessary, a corrective plan will be provided by the Assessment Committee to the Program Director. Faculty will be provided with educational programs to continue their development as online educators.

Student retention for the MS in Artificial Intelligence for Drug Development will be tracked. Both student and faculty satisfaction will be assessed after each course.

N. Consistency with the State’s Minority Student Achievement Goals

The University of Maryland, Baltimore enjoys robust cultural diversity and minority student enrollment in all academic programs. Specifically, in 2015, 43.4% of all master’s level candidates were minority students and 42.4% of students enrolled in professional practice doctorate programs were of minority status. Our university strives to make students of all cultures feel welcome, and they thrive accordingly. As stated above, per the mission statement, the University of Maryland, Baltimore “explicitly values civility, diversity, collaboration, teamwork, and accountability.”

The proposed MS in Artificial Intelligence for Drug Development program aims to address both UMB and the state’s cultural diversity goals. The program’s online delivery aims to enhance minority student access and success. Distance education uses technology to expand access and promote success for learners from diverse communities, and the flexibility inherent in online instruction meets the diverse needs of learners.

Recruitment for the MS in in Artificial Intelligence for Drug Development will include advertising and targeted recruitment to top health professional programs for African Americans (<http://www.bestcollegesforblacks.com/HEALTHPROFESSIONS.html>).

O. Relationship to Low Productivity Programs Identified by the Commission

The proposed MS in AI for Drug Development is not directly related to any identified low productivity program.

P. Adequacy of Distance Education Programs

This is an online program using Blackboard as the learning management system (LMS). Upon admission to the program, all students will be assigned to an academic advisor. All course materials will be posted in the LMS and include pre-recorded lectures, pre-recorded video interviews with experts in the field, readings, discussion boards, and links to interactive computer-based exercises. Students will have the

opportunity to participate in live, in-person sessions, as well as web conferencing, and online active-learning instruction both independently and in groups.

Many proposed program faculty have extensive teaching experience in distance education, and continued training and support will be provided to all faculty. The program will employ existing technology to produce and deliver pre-recorded lectures (e.g., recording studio), to conduct web conferences (e.g., Blackboard Collaborate) and to design and deliver active-learning instructional activities. The School of Pharmacy has been using distance education technology to deliver our PharmD program at USG for more than 10 years, and for four highly successful master's programs for more than seven years.

Performance objectives were developed, and the curriculum was designed to achieve learning outcomes via distance education modalities. Curricular mapping was structured to ensure that each terminal performance objective is introduced in one of the first four courses. Each terminal performance objective is then emphasized in one or more of the elective courses, and all objectives are reinforced in the final two required courses. The choice of electives and specialized tracks allows for self-determined learning as planned by each participant. The program will combine synchronous and asynchronous online learning, providing students with multiple opportunities for interaction with faculty. We anticipate that this program will attract students from myriad disciplines, and our faculty will also represent multiple areas of expertise in the basic and clinical sciences, policy, and administration.

All faculty teaching in this program will satisfactorily complete a training program on distance education provided by UMB's School of Graduate Studies. The faculty will collaborate and utilize the resources at the University of Maryland Faculty Center of Teaching and Learning (FCTL). The FCTL supports the UMB mission through specific efforts to sustain educational excellence, and it contributes to the UMB mission in all areas, supporting: student success, research and scholarship, educational inclusivity and diversity, assessment and efficiency, and collaboration. The FCTL partners with faculty, staff, and administrators in the curation, collaboration, and co-creation of teaching and learning resources for educational enhancement and student success. Education specialists, instructional system designers, and instructional technologists from FCTL will be working hand-in-hand with faculty to develop learning activities.

Course development will be accomplished in partnership with a program director, teaching faculty, and the instructional design team, who will ensure course materials follow best practices in online education and adult learning theory. Collectively, they will produce the following materials:

- Course-level outcomes and module level objectives
- Course syllabi and student guides that outline objectives, discussion prompts and learning activities, and resources (articles, websites, online videos)
- Assignments and assessments that measure student performance, and clear instructions for completing them
- Grading rubrics

TOPIC: Bowie State University proposal for a Bachelor of Science (BS) in Immersive Media, Entertainment, and Gaming

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: The BS in Immersive Media, Entertainment, and Gaming (IMEG) at Bowie State University (BSU) will provide collaborative and interdisciplinary experiences between the Departments of Fine and Performing Arts and Computer Science in the areas of game design, XR, and virtual production and in the visual and media arts through iterative cycles of design, problem-solving, and analysis. The program is designed to prepare students for employment in technical and creative positions in the game and entertainment industries while emphasizing fundamentals such as entrepreneurship, diversity, technology, and inclusion by merging these areas and unique partnerships between these departments at Maryland's oldest HBCU. The program will equip students and graduates with the skills and knowledge to apply computing, modeling, and simulation techniques, and digital media arts (art, animation, interactive, video, sound) and virtual production for entertainment, film, immersive experiences, research, education, military, sports, and other disciplines.

This program's innovation lies in its multi-disciplined approach to increasing diversity, inclusion, and representation of women, minorities, and underserved communities; encouraging entrepreneurship in the burgeoning gaming and entertainment industry; and preparing students for lucrative careers. According to GlassDoor, average salaries in immersive media range from \$70,000 to \$140,000 annually in positions such as junior web developer, digital designer, and a host of other positions.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the BSU proposal for a BS in Immersive Media, Entertainment, and Gaming.

COMMITTEE RECOMMENDATION: DATE: December 3, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Alison M. Wrynn 301-445-1992 awrynn@usmd.edu



August 15, 2024

Jay A. Perman, MD
Chancellor
University System of Maryland
3300 Metzgerott Road
Adelphi, Maryland 20783-1690

RE: New Academic Program – Bachelor of Science –Immersive Media, Entertainment, and Gaming

Dear Chancellor Perman:

Please find enclosed a proposal to offer the Bachelor of Science –Immersive Media, Entertainment, and Gaming (HEGIS 109901/CIP 50.0411).

Gaming and entertainment arts requires knowledge of computer programming, research, advanced mathematics, media arts, animation, design, film, production and physics as well as artificial intelligence, immersive technology, and game engines that make up the game programs. The proposed B.S. in Immersive Media, Entertainment, and Gaming will provide collaborative and interdisciplinary experiences in computer science, XR animation and in the visual and media arts; and through iterative cycles of design, problem-solving and analysis will also be a formal research component and strategic partnership between the departments of Fine and Performing Arts (VCDMA program) and Computer Science within the College of Arts and Sciences. The program will equip students and graduates with the skills and knowledge to apply computing, modeling, and simulation techniques, and digital media arts (art, animation, interactive, virtual, video, sound) and production for entertainment, immersive experiences, research, education, military, sports, and other disciplines.

We respectfully request the Board's consideration of this proposal.

Sincerely,

Aminta H. Breaux, Ph.D.

cc: Dr. Guy-Alain Amoussou, Provost and Vice President for Academic Affairs
Dr. Candace Caraco, Associate Vice Chancellor for Academic Affairs, USM
Dr. Jacqueline M. Cade, Manager of Institutional and Academic Programming

Aminta H. Breaux, Ph.D.

President

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UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- Cooperative Degree Program
- Within Existing Resources, or
- Requiring New Resources

Bowie State University

Institution Submitting Proposal

Immersive Media, Entertainment, and Gaming

Title of Proposed Program

Bachelor of Science

Award to be Offered

Spring 2024

Projected Implementation Date

1099.01

Proposed HEGIS Code

50.0411

Proposed CIP Code

Fine and Performing Arts/ Computer Science

Department in which program will be located

Prof. Tewodross Williams

Department Contact

301-860-3751

Contact Phone Number

tmelchishua@bowiestate.edu

Contact E-Mail Address



Signature of President or Designee

8-12-24

Date

Bowie State University
MHEC Proposal for a Baccalaureate Degrees
BS: Immersive Media, Entertainment and Gaming (IMEG)

A. Centrality to Institutional Mission and Planning Priorities

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The Department of Fine and Performing Arts proposes a new Bachelor of Science (BS) degree in Immersive Media, Entertainment and Gaming (IMEG) in collaboration with the Department of Computer Science. This exciting and interdisciplinary program provides much-needed talent for the growing technical and creative positions pipeline in the game, XR, entertainment, and workforce training for companies. As Maryland's oldest HBCU/HBI located in Prince George's County, MD, BSU is uniquely positioned to offer such an innovative and collaborative program. The university is very close to the burgeoning metropolitan areas of Washington, DC, Baltimore, and Annapolis, MD. The proposed degrees between the Department of Computer Science (CS) and the Department of Fine and Performing Arts (DFPA), Visual Communication and Digital Media Arts program (VCDMA), will equip students and graduates with the skills and knowledge to apply gaming, computing, modeling, and techniques for immersive media arts (art, animation, video, sound), game production, entertainment and the metaverse.¹

The DFPA and CS will continue to focus on enhancing and building its courses, curriculum, and capacity and emphasis on animation and motion graphics and, of course, incorporating more immersive media (XR) courses and skills for our graduates. XR is an umbrella term that encompasses augmented reality (AR), mixed reality (MR), virtual reality (VR), and other forms of alternate, expanded, or immersive reality applications. This new major builds on and applies expertise in computing, visual and media arts, and design to create engaging and immersive gaming systems and experiences. The innovation of this program lies in our goal to increase diversity, inclusion, and representation of women, minorities, and underserved communities and encourage entrepreneurship. The strategic partnership lies primarily between the two departments; however, it may include others in the College of Arts and Sciences, College of Business, and the Entrepreneurship Academy. The collaborative nature of the new degree and shared experiences between faculty and students of both departments will also greatly enhance the effectiveness of this degree. This program will allow for a high level of creative and technical research and production outside of traditional class structures. Graduates may also continue to a terminal degree in Computer Science, Gaming, Visual Arts, Design, and related majors in digital media, immersive media (XR), and production. The program will equip students and graduates with the skills and knowledge to apply computing, modeling, and simulation techniques, media arts (art, design, animation, video, sound, motion capture), and virtual production for entertainment, research, education, military, sports, and other disciplines.

¹ https://about.meta.com/immersive-learning/?gclid=Cj0KCQjwteOaBhDuARIsADBqReilYNUI-1z7WJQ_q0V1MBz1OkWuQexeFpPf6tv9arzqK6hyhW4v2ywaAhUyEALw_wcB&gclid=aw.ds

2. Explain how the proposed program supports the institution’s strategic goals and provide evidence that affirms it is an institutional priority.

The new majors will respond to the following institutional goals (based on BSU’s Strategic Plan):

Goal 1: Achieve Academic Excellence Supported by Curricular as well as Co-curricular Experiences, Goal 2: Promote a Holistic and Coordinated Approach to Student Success, Goal 3: Encourage Academic Innovation to Meet Student Needs, Goal 4 - Enhance our campus culture of diversity, inclusion, and civic engagement; and Goal 5: Ensure Long-term Viability of BSU

The two, new majors would respond to the following institutional goals (based on BSU’s Strategic Plan)²: *Goal 1: Achieve Academic Excellence Supported by Curricular as well as Co-curricular Experiences Goal 2: Promote a Holistic and Coordinated Approach to Student Success, Goal 3: Encourage Academic Innovation to Meet Student Needs and Goal 5: Ensure Long-term Viability of BSU*

The proposed new degrees would also contribute to the university’s strategic goals (1, 2, 3, 4, and 5) as follows:

Goal 1—Achieve academic excellence supported by curricular and co-curricular experiences: The two new Bachelor of Science degrees would also contribute to the achievement of Bowie’s 2019 – 2024 Racing to Excellence Strategic Plan, specifically *Goal 1 Academic Excellence, Objective 1.1 High-demand, innovative academic programs.*

Goal 2—Promote a holistic and coordinated approach to student success: The new BS degrees consist of components from various disciplines and utilize an approach designed to create a well-rounded student.

Goal 4 - Enhance our campus culture of diversity, inclusion, and civic engagement: BSU is among the top five universities in Maryland that graduates African Americans with bachelor’s degrees in nursing, biology, and computer/information sciences (*Diverse: Issues in Higher Education*).³ The university is committed to providing opportunities to traditionally underrepresented populations in the gaming, entertainment, and STEM/STEAM fields. The new BS degrees will empower “a diverse population of students to reach their potential, by providing innovative academic programs” and by supporting Maryland’s workforce and economy.

Goal 5 - Ensure the long-term viability of Bowie State University (BSU): The current high demand for Game Developers, Animators, XR, and Game Designers will attract many students, which in turn will enhance the viability of BSU. The demand for graduates in this field is anticipated to increase and grow. According to Linked In, “Extended Reality will pivot with predictions that the industry will reach a total of US billion in 2024, or a 54% annual growth rate between 2020 and 2024. XR (augmented reality, virtual reality and mixed reality) is one of the fastest-growing industries that are changing our world in dramatic ways. It is a new way to teach,

² <https://bowiestate.edu/about/administration-and-governance/office-of-the-president/reports/bsu-strategic-plan-fy19-fy24.pdf>

³ <https://bowiestate.edu/about/news/2019/diverse-issues-ranks-bsu-as-top-100-producer-of-minority-degrees.php>

train, communicate and connect with customers...”⁴

3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation. (Additional related information is required in section L.)

The funding of the program will come from tuition and course fees for the first five years. The two departments will fund the programs through existing resources and budgets. Additional funding would be further supported through possible grants, partnerships, and research opportunities with related companies, organizations, agencies, and game design, XR, and entertainment industries. The programs rely on existing Computer Science, VCDMA (Fine Arts), and related courses and will require limited new expertise beyond current faculty resources. We will use existing courses from among the programs and will create only a few new courses to support this program. The Departments of Computer Science and Fine and Performing Arts (VCDMA) have partnerships, collaborations, and MOUs with government agencies, studios, and the game design, XR, and entertainment industry. We will leverage the existing partnerships with industry partners to bring real-world experience to the classroom and provide extracurricular learning opportunities. For example, VCDMA has a partnership with Laika Animation Studios as well as MOUs with television and film studios and with local arts, and film organizations such as A + E Networks, Megamind Media, Octet Productions, and the Prince George’s Arts and Humanities Council (PG Film Office).⁵ These strategic partnerships will further create pathways and a pipeline into the professional animation, film, and entertainment industry. Course projections will be monitored annually, and over time, increased demand for courses could necessitate acquiring additional full-time faculty. A request for new faculty will be made to the university administration if the need arises.

4. Provide a description of the institution’s commitment to:

a. Ongoing administrative, financial, and technical support of the proposed program

BSU has demonstrated its unwavering commitment to technology-related programs. The administration supported the ABET accreditation of the Computer Science program, which involved a four-year preparatory period followed by another year of study and campus visit by ABET to earn the credential. The administration supports the same process for the planned BS degrees in Virtual Reality (CS); and BS in Immersive Media, Production and (DFPA), and especially as the VCDMA and this major will seek accreditation from the National Association of Schools of Art and Design (NASAD)⁶ in 2023. The university's policy is to support program growth by providing funds to hire new faculty, support the development of new courses, and provide additional library resources. Both programs will receive similar support from the university administration. The four computer labs located in the Thurgood Marshall Library support all technology-related classroom instruction and currently have sufficient capacity to simultaneously support most of the new courses proposed for the new BS degrees and programs. The CS department also has several labs which the students use. In addition to these campus labs, the university has also approved the acquisition of access to cloud-based laboratory resources, providing students with state-of-the-art computing resources. The Fine and Performing Arts Center (DFPA) has (2) computer and digital media arts labs, artists’ studios; stop-motion animation studio, video edit suite, film production equipment and facilities to support animation, film, media arts production; sound design, music technology, lab, recording studio and much more.

b. Continuation of the program for a period sufficient to allow enrolled students to complete the program.

Given the established nature of the computer science degree and fine arts programs, the proposed degrees will be able to manage the incremental resource needs by leveraging the existing curriculum and laboratory infrastructure. With each new year of the new degree offering, only those required for the initial student class will need to be added. Thus, only new freshman classes will be added to the class offerings in the first year of the program. In the second year, the freshman classes will be repeated, and sophomore-level courses will be added. This incremental increase in curricular offerings requires only a gradual increase in expenditure, to which the administration has committed. If at any point, after the full program is launched, the university decides to discontinue the degree program, no new students will be admitted to the program. Currently, enrolled students will be provided with the required classes to complete their degrees.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan

1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:

a. The need for the advancement and evolution of knowledge

The need for innovative curriculum instruction continues to grow with demands from the marketplace to provide an employable, skilled workforce that can assume new roles of productivity, responsibility, and leadership. Bowie State University, as a HBCU provides support to the postsecondary education goals set forth in the 2013-2017 Maryland State Plan for Postsecondary Education. The proposed BS degrees at Bowie State University (BSU) advance the education and the knowledge of design, art, and technology for immersive game design. It provides training in transferable skills and practice for training and preparing a local workforce that will contribute to and participate in many current and future aspects of economic development in the State of Maryland. The market for immersive gaming continues to grow. In November 2019, the revenue in the United States for the video game industry amounted to approximately 2.25 billion U.S. dollars. As the 2020 publication “Essential Facts About the Game Design Industry” by the Entertainment Software Association (ESA), the author mentions that players of all ages and backgrounds embrace video games. There are more than 214 million video game players across the United States, three quarters of all U.S. households have at least one person who plays video games, and 64 percent of U.S. adults and 70 percent of those under 18 regularly play video games. As a computer science degree, the development of a game is only of marginal scope.⁴ It requires additional STEM/STEAM interdisciplinary collaboration with the Department of Computer Science and as supported by the Department of Fine and Performing Arts such as animation, design, sound/music, storytelling, and production. Other discipline areas could include writing, business, marketing, communications, and entrepreneurship.

b. Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education

⁴ <https://www.theesa.com/resource/2020-essential-facts/>

The programs focus primarily on the science, algorithms, concepts, and theory behind computer games and the virtual reality of scientific phenomena. It introduces students, primarily those who are African American as well as other minorities and underrepresented groups to graphic visualization, artificial intelligence, machine learning, human-computer interaction, animation, sound, and immersion. Students at an HBCU such as BSU will further research the socioeconomic, political, and cultural considerations and impact of these new experiences and vice versa as they also learn to conduct themselves as ethical professionals and creatives while further deepening their understanding of XR/AR/VR digital media, design thinking, operating systems, information security, and object-oriented programming.

Table 1: Race/Ethnicity Completion of Degrees within CIP Codes Maryland Region

Race/Ethnicity	Percent of Completions Within CIP Codes	Percent of Completions All CIP Codes
White	37%	49%
Black or African American	22%	21%
Asian	11%	10%
Hispanic or Latino	8%	8%
Two or more races	6%	4%
Race/ethnicity unknown	3%	3%
Nonresident alien	15%	4%
Native Hawaiian or Other Pacific Islander	0%	0%
American Indian or Alaska Native	0%	0%

Source: Aslanian Market Research Education Dynamics for Bowie State University (Page 6– March 2021)

c. The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs

Bowie State University recruitment strategies actively seek a diverse student population from Maryland and beyond who will add diverse insights and experiences to the program and the game industry. This program will contribute to the economic growth and vitality of the state by providing new knowledge, skills, and abilities to contribute to, and advance, the workforce in game design. Major companies and organizations are seeking greater diversity and inclusion and especially in the gaming and entertainment industry where they will often face challenges related to diversity, inclusion, ethics, and hands-on skills. The implementation of this new degree can be a catalyst to assist BSU in meeting its strategic goals to achieve academic excellence supported by curricular and co-curricular experiences. The distinction is the emphasis on XR and immersive media and production and the collaboration with Computer Science and their proposal for game development and virtual reality.

1. Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.

The Maryland State Plan for Postsecondary Education has three basic tenets: **Access, Success, and Innovation.**

Access: BSU provides opportunities for many underrepresented Maryland residents to obtain a college education at affordable cost. The new BS degrees and program will provide an avenue for underrepresented students to enter the high demand fields of Gaming, Animation and XR production as well as in the entertainment industry.

Success: Students entering either program at BSU will have access to affordable education, mentoring by a caring faculty, quality advising, and a nurturing environment that will help ensure their success in the program.

Innovation: Students in the program will be involved with research projects with faculty mentors and industry partners. This exposure to research and innovative techniques under the guidance of academic and game design, animation, XR, and entertainment industry experts will continue to help hone students' creativity and develop the networking skills students need to become successful entrepreneurs. The new degrees address the state's perceived need for postsecondary education that enhances the quality and effectiveness of its offerings, provides service to and advances diversity in the fields of entertainment and training, and contributes to workforce development and economic growth in Maryland, as addressed in the Maryland Ready 2013-17 Maryland State Plan. Bowie State University's Departments of Fine Arts and Computer Science have established a record of high-caliber undergraduate education in computer science and visual communication, advertising design, digital media, animation and motion graphics, digital cinema (filmmaking), and fashion design.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State.

1. Describe potential industry or industries, employment opportunities, and expected level of entry (ex: mid-level management) for graduates of the proposed program.

The current outlook for skilled positions in video game design and related professional support is reported by O*NET and the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook, and in the section, *Special Effects Artists and Animators*.⁵ According to this information, video game design and related computer occupations are expected to grow rapidly in the State of Maryland from the 2018 reported employment of 1,840 to the 2028 projected employment of 2,140—a 16 percent projected increase.⁶ Game design is a vital and growing field, with high demand in the District of Columbia, Maryland, and Virginia (DMV) region. A market survey and report (Education Dynamics Gaming Report) on game design in Maryland were conducted on behalf of Bowie State University by Aslanian Market Research/Education Dynamics in March 2021 and are included in this proposal.

Number of Annual Openings in Region

⁵ <https://www.bls.gov/ooh/arts-and-design/multimedia-artists-and-animators.htm>

⁶ <https://www.onetonline.org/link/summary/15-1255.01>; Valid data are essential to understanding the rapidly changing nature of work and how it impacts the workforce and U.S. economy. From this information, applications are created to facilitate the development and maintenance of a skilled workforce.

In 2019, the region had 6,256 job openings. The leading areas with job openings were software developers, software quality assurance analysts, and testers. Other positions include entertainment/recreation managers, designers, and computer programmers.

Table 2: Game Design and Related Occupations in the Maryland Region

Occupations	Annual Openings
Software Developers and Software Quality Assurance Analysts and Testers	3,503
All Other; Entertainment and Recreation Managers, (Except Gambling); and Game Development Studio Managers, All Other	1,498
Graphic Designers	407
Computer Programmers	310
Computer and Information Research Scientists	139
Art Directors	107
Artists and Related Workers, All Other	78
Fine Artists, Including Painters, Sculptors, and Illustrators	75
Special Effects Artists and Animators	56
Designers, All Other	47
Commercial and Industrial Designers	38

Source: Aslanian Market Research Education Dynamics for Bowie State University (Page 16 – March 2021)

The field offers ample job opportunities across multiple industries with strong salary potential, both immediately and over a career in industry and even government. There is also significant potential for developing academic pipeline partnerships with the local game industry, which boasts of over forty-five companies located in the DMV area and nearby areas, such as Hunt Valley, MD.

Table 3: Gaming Careers and Average Salary

Top 5 Gaming Careers:	Annual Average Salary
Games Designer	\$66,282 per year
Software Developer & Game Programmer:	\$72,000 per year
Special Effects Animator	\$77,700 per year
Games Artist	\$60,213 per year
Game Play Tester & Quality Assurance	\$53,030 per year

Video games have grown to resemble competition-based, interactive movies, and the COVID-19 pandemic has propelled the industry to make more money than movies and North American sports combined. According to Market Watch, “Global videogame revenue is expected to surge 20% to \$179.7 billion in 2020, according to IDC data, making the videogame industry a bigger moneymaker than the global movie and North American sports industries combined. The global film industry reached \$100 billion in revenue for the first time in 2019, according to the Motion Picture Association, while PwC estimated North American sports would bring in more than \$75

billion in 2020.”⁷

2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

Increasing academic and artistic attention has been paid to the study of games and play. Along with a significant serious study of the cultural, pedagogical, and ethical implications of games, designers and artists are attempting to use the power of games and play to address social, civic, and health issues. Gaming and entertainment arts are now included in immersive simulation and occupation training for medical and military applications. This industry is taking a front-row seat to promote user experience for mental health and wellbeing. The gaming industry continues to grow in designed interactive user experiences in education and occupational training at all levels.

3. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.

The two new degrees and programs empower its graduates for entry and advanced positions in the gaming, XR and entertainment industries. According to the Bureau of Labor Statistics, the job outlook for multimedia artists and animators shows a 6 percent growth rate from 2014-2024 with a median salary of \$63,970 a year, while software developers can expect 17 percent growth and a median salary of over \$100,000 a year.⁸

4. Provide data showing the current and projected supply of prospective graduates.

Please refer to Tables 4 and 5.

Table 4: Enrollment Projections and Estimated Growth

Year	2013	2014	2015	2016	2017	2018	2019
Estimated Number of Enrollments	576	630	942	750	666	996	954

Source: Aslanian Market Research Education Dynamics for Bowie State University (March 2021 – Page 10)

⁷ <https://www.marketwatch.com/story/videogames-are-a-bigger-industry-than-sports-and-movies-combined-thanks-to-the-pandemic-11608654990>

⁸ <https://www.bls.gov/ooh/arts-and-design/multimedia-artists-and-animators.htm>

The following table indicates a steady growth in the number of completed degrees across all baccalaureate level programs at institutions operating within Maryland.

Table 5: Number of Graduation Completions in Maryland

Year	2013	2014	2015	2016	2017	2018	2019	Percent Change 2013- 2019
Number of Completions	96	105	157	125	111	166	159	67%

Source: Aslanian Market Research Education Dynamics for Bowie State University (March 2021 – Page 9)

D. Reasonableness of Program Duplication:

There are similar academic programs in game design and related disciplines in the geographic region and in the State at public institutions University of Maryland, College Park; University of Maryland, Baltimore County, University of Baltimore (PBI), and University of Maryland Eastern Shore (UMES, and HBCU), and Maryland Institute College of Art (MICA), but there is no duplication with the proposed new program at Bowie State University when considering factors such as CIP code, mission, student enrollment, geographic location, and proximity to BSU. Of note, during the USM circulation period, BSU received an objection to the proposed program only from University of Baltimore, who after robust discussions determined that the course requirements and the expertise of many of the faculty required to teach the courses in our program were in fact dissimilar, and their concerns were mitigated with a slight differentiation in program title, eliminating the term “game Design” and replacing it with “Gaming.” Further, BSU engaged UMES in discussion to review our proposed program and their new Gaming and Software Engineering program to ensure that there was no duplication; UMES found that there was none. In fact, if the IMEG program is approved, BSU and UMES plan to partner to ensure that graduates of our IMEG can further their studies and careers in graduate study at UMES.

Bowie State University’s B.S. in Immersive Media, Entertainment and Gaming has a CIP code of 50.0411 (Game and Interactive Media Design), focused on “...design, development, and programming of interactive media entertainment, including computer and video games, virtual environments, internet applications, and other interactive media...” (NCES Classification of Instruction Programs, <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cid=89301>). The program is an arts based program with technical instruction in virtual reality, immersive media, gaming, film and other applications, and once the program is fully established we will seek NASAD accreditation. BSU continues steadfast in its mission as Maryland’s oldest HBCU to provide access to higher education to empower students from diverse backgrounds to reach their full potential through innovative academic programs, and to develop students into professionals with a critical-ethical perspective who are socially responsible and can think critically, and

is the only Maryland HBCU in the DC-Southern Maryland-Virginia (DMV) region. We are unique in that we serve a different demographic with an emphasis on African Americans (81% as an HBCU and in the central/southern areas of Maryland, including Prince George's County, MD (DMV area). BSU is home to the Entrepreneurship and Innovation Center, and seeks to develop students with an entrepreneurial mindset to create spaces for themselves and others from diverse backgrounds in all aspects of commerce where they may not exist or provide access. In addition to this unique characteristic of the IMEG program, the distinct classification of instruction codes assigned to each program in and of itself distinguishes each program from the others. The Bowie State University program is a unique undergraduate degree in that the strengths are collaboration, innovation, diversity, entrepreneurship, and inclusion within the partnership and collaboration between the Departments of Fine and Performing Arts and Computer Science. This is further enhanced through strategic partnerships with companies and organizations in the gaming and entertainment industries, and future collaboration with our sister HBCU across the Bridge, UMES.

While **University of Maryland, College Park (UMCP)**'s BA/BS in Immersive Media Design program offers a similar interdisciplinary approach between the arts and computer science, its CIP code (11.0804 Modeling, Virtual Environments and Simulation) describes programs based in "...modeling, applied visual simulation technology, and the application of quantitative analyses to human-computer interaction..." (NCES Classification of Instruction Programs, <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=89326>). UMCP, a nationally ranked institution and Maryland's flagship, serves to achieve excellence in teaching, research, and public service within a supportive, respectful and inclusive environment, and "strives to provide exceptional and affordable instruction for Maryland's most promising students, regardless of income" (umd-provost.files.svcdcdn.com/production/files/Mission-Vision.pdf?dm=1697679101). BSU and UMCP are about 11 miles apart.

University of Maryland, Baltimore County (UMBC) offers the Bachelor of Arts (B.A.) and Bachelor of Fine Arts (B.F.A.) (50.0702 Fine and Studio Art) with a concentration in Animation and Interactive Media and an interdisciplinary self-directed concentration in Intermedia. Both programs center on "artistic practices of animation, cinema, motion graphics, games and technology" (UMBC 2024-2025 Undergraduate Catalog, <https://catalog.umbc.edu/>). The University of Baltimore (UBalt) offers the BS in Simulation and Game Design (CIP 10.0304 – Animation, Interactive Technology, Video Graphics and Special Effects), which prepares students to "use computer applications and related visual and sound imaging techniques to manipulate images and information originating as film, video, still photographs, digital copy, soundtracks, and physical objects in order to communicate messages simulating real-world content" (NCES Classification of Instruction Programs, <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=87238>). UMBC "is a dynamic public research university integrating teaching, research, and service to benefit the citizens of Maryland" and offers "academically talented students a strong undergraduate liberal arts foundation that prepares them for graduate and professional study, entry into the workforce, and community service and leadership" (<https://umbc.edu/leadership/mission-and-vision/>). UMBC is about 23 miles from BSU.

University of Baltimore (UBalt)'s nationally acclaimed Bachelor of Science in Simulation

and Game Design (CIP 10.0304 – Graphic Communications, Animation, Interactive Technology, Video Graphics and Special Effects) is the oldest and largest game design program in the State, with 40 graduates last year alone. The program is structured through courses in the Department of Computer Science, preparing students with instruction in applied game design theory, the fundamentals of computer programming, 3-D modeling and animation, usability design, the application of simulation to education and other non-entertainment fields, and design of multiplayer games according to the program’s webpage (<https://www.ubalt.edu/cas/undergraduate-majors-and-minors/majors/simulation-and-game-design/>). Our program is centered on the design, animation, and production of video games and other immersive experiences, products (XR), animation, visual and special effects, and virtual production for film and entertainment industries through arts and technical instruction. *Again, UBalt’s original objection was mitigated by a change in the program title.* UBalt’s mission is to “career-focused education for aspiring and current professionals, providing the region with highly educated leaders who make distinctive contributions to the broader community” (<https://www.ubalt.edu/about-ub/ub-strategic-plan.cfm>). UBalt is approximately 28 miles from BSU.

University of Maryland Eastern Shore (UMES) recently approved B.S. Gaming and Software Engineering (CIP 14.0903 - Computer Software Engineering), is an ABET (engineering and technology) accredited program in the School of Business and Technology. The program “prepares individuals to apply scientific and mathematical principles to the design, analysis, verification, validation, implementation, and maintenance of computer software systems using a variety of computer languages” (NCES Classification of Instruction Programs, <https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cip=10.03040>). The UMES Gaming and Software Engineering program overview states that the program “offers prospective students an academic program with strong foundations in simulation technology and practice to meet the needs of technical professionals, including those in the Eastern Shore of Maryland with more advanced learning in the rapidly developing field of simulation technology and game development.” help students develop new technologies in emerging fields related to game development for a wide range of applications, including agriculture, automotive, aerospace, clean energy systems, construction, finance, health care, and hospitality management. The UMES mission is to “be the preeminent public Historically Black University that is recognized for leadership in student-centered education, exceptional research, innovation, and inclusiveness” (<https://www.wcp.umes.edu/middlestates/mission-vision-and-core-values/>).

Maryland Institute College of Art (MICA)’s B.A. in Game Design (CIP code 50.0411) is listed on the Academic Program Inventory; however, a review of the institution’s catalog did not list a major in Game Design. MICA offers a minor (15-credits) in Game Design that prepares students with the “technical and artistic skills necessary to create professional interactive game experiences” and to “develop the ability to create highly compelling interactive environments that can be used across a range of fields - from medicine to museums, education, and entertainment, including the digital and traditional game industries” <https://www.mica.edu/undergraduate-majors-minors/game-design-studio-minor/>).

In sum, the uniqueness of this proposal is the emphasis not only on game design but also on virtual production, immersive media (XR), and interactive user experiences, as well as

collaboration and interdisciplinary approach between computer science and the fine and performing arts, as well as other departments and disciplines at BSU. We also have an added focus on entrepreneurship with the focus on animation, special and visual effects for the entertainment industry. The curricular content, outcomes and objectives, faculty requirements of the IMEG proposed major are also different from the other institutions as well as employability and job titles as our program does not end with game design and also includes other opportunities for students and graduates in the entertainment industry and specifically with immersive media (XR) and virtual production. UMES and UBalt confirmed that there is no duplication between their programs and our proposed program.

Table 6: Similar Institutions in Maryland and Degree Completions

Institution	Bachelor's Degree Completions (2019)	Game Design Related Degrees
Maryland Institute College of Art	79	Animation Film & Video & Humanistic Studies Game Design General Fine Arts
University of Maryland-Baltimore County	32	Design
Bowie State University	19	Visual Communication & Digital Media Arts
Stevenson University	19	Graphic Design
University of Maryland, Eastern Shore	–	Game Design & Software Engineering (recently approved)
University of Baltimore*	7	Integrated Arts
Capitol Technology University	3	Information Technology
University of Maryland, College Park	-	Immersive Media Design

Source: Aslanian Market Research Education Dynamics for Bowie State University (Page 11 – March 2021)

*As noted in Section D above, University of Baltimore offers the BS.in Simulation and Game Design which graduated 40 students last year. The program is the oldest and the largest in the USM. This program was omitted from the Aslanian Market Research Report referenced in the table above.

2. Provide justification for the proposed program.

Both departments and their various majors have growing recognition in the state and nationally. BSU strives for excellence in every facet of program delivery and has the systems and structures in place to support achieving these goals. This degree will increase

minority participants in the workforce as well as the connections to the local business sector, federal and state government agencies, entertainment companies, and venues that use the new major to continue with the university's mission to be a model for academic excellence, innovation, and student success. For example, Hunt Valley and Baltimore, Maryland serve as hubs for several game design companies in the state.⁹ Some of these companies include Firaxis, ZeniMax, Big Huge Games, Sparky Pants, and others.¹⁰ The Washington-DC metropolitan area also hosts several animation game design, immersive studios and companies such as that would benefit from this major in terms of graduates such as Bethesda Soft Works, ZeniMax Media and others.¹¹ Enrolling students in these programs will build strong and ongoing relationships with the faculty and industry advisors who can serve as mentors on the projects, products and thesis.

This new program supports the advancement of diversity and inclusion in the targeted workforce. This program will contribute to the economic growth and vitality of the state by providing new knowledge, skills, and abilities to contribute to, and advance, the workforce in game design. Major companies and organizations are seeking greater diversity and inclusion in the gaming and entertainment industries where they often face challenges related to diversity, inclusion, ethics, and practical skills. The implementation of this new degree can be a catalyst to assist BSU in meeting its mission and strategic goals to achieve academic excellence supported by curricular and co-curricular experiences.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBIs.

As Maryland's first historically Black institution (HBI/HBCU), Bowie State University is committed to providing access to high-quality higher education to African Americans and other underrepresented minorities. The goals established in the University's Racing to Excellence

FY 2019- 2024 Strategic Plan support student achievement and long-term viability of the institution and align with the goals in the 2017-2021 State Plan for Postsecondary Education: Student Success with Less Debt. Specifically, Bowie State University continues to:

Support educational opportunity for Marylanders (Success, Strategy 4).

Engage in a continuous improvement process to ensure that institutional policies and practices support student success (Success, Strategy 5).

Provide alternative modalities, new programs, and pedagogies, and streamlined student and academic support services to facilitate timely degree completion (Success, Strategy 6) (Innovation, Strategy 9).

Integrate high impact practices (HIP) into the student experience, including career advising and planning into internship experiences (Success, Strategy 7).

Partner with business, government, and other institutions to support workforce development and graduate readiness (Innovation, Strategy 8).

Expand support for grant participation and research (Innovation, Strategy 10).

Innovate and change management strategies with Bowie State faculty, staff, students, and administrators engaging in and embracing experimentation to better meet the holistic needs of the students (Innovation, Strategy 11).

F. Relevance to the Identity of Historically Black Institutions (HBIs)

Bowie State University is a historically Black institution, and this new program does not impact other Maryland HBIs/HBCUs. No other institution of higher education in the state offers this kind of undergraduate program. Bowie State University is compliant with all stipulations of Title VI, Title IX, and Section 504. Furthermore, Bowie State serves an underrepresented minority population, and respect and understanding of diversity is central to its mission of advancing minority student achievement. Accordingly, a student graduating from an HBI/HBCU hopefully will always be concerned about others, especially those who are under-represented and/or marginalized and have great appreciation for the global market and community. The relevance of the proposed degrees is both supported by the marketplaces' need to improve diversity and opportunity across a broad spectrum, to include stories and entertainment production with a cultural sensitivity as the anchor. The goals of this new program are motivated by these high educational aims. It is axiomatic that HBIs/HBCUs have placed an emphasis on elevating persons who have experienced a multitude of disadvantages, including those accruing from the pattern of racial discrimination. Historically, HBIs/HBCUs have stressed the importance of educating both the head and the heart. The adage that we educate the whole person is a cornerstone of such institutions. Currently, there are only (3) three HBCUS in the country with a game design (or related) as a program. The game design industry is underrepresented by African Americans specifically HBCU/HBIs and these institutions include University of Maryland Eastern Shore (MD) and again this institution is in another geographic area of Maryland as compared to Bowie State University; the others are Hampton University (VA) and Johnson C. Smith University (NC).

1. Discuss the program's potential impact on the uniqueness and institutional identities andmissions of HBIs.

The proposed degree seeks to aid in closing the gap between Black students who seek a STEM/STEAM degree and those able to achieve this goal. It will help meet the demand for additional STEM/STEAM programs at HBCUs, support other STEM/STEAM programs on campus, and increase the number of minority gaming/XR developers, animators, and design experts in a geographical area desperate to hire qualified graduates to serve in the field. This degree is positioned to be the only program of its kind offered by an HBCU within a 50-mile Baltimore/Washington, DC metropolitan radius. The degrees also emphasize fundamentals such as entrepreneurship, diversity, inclusion, ethics, and immersive technology. The merging of these areas forms a unique, innovative partnership opportunity to advance the education frontier between the Computer Science and Fine and Performing Arts departments and Bowie State University. The relevance of the proposed degrees is supported by the marketplace's need to improve diversity and opportunity across a broad spectrum, includingstories, images, experiences, and creations from a cultural sensitivity and awareness base. As more images of people of color appear in games, animation, and thorough interactive and immersive experiences (metaverse), students from underrepresented groups will be drawn to the opportunities in this booming industry.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes(as outlined in COMAR 13B.02.03.10)

1. Describe how the proposed program was established and describe the faculty who will oversee the program.

The computer science and fine and performing arts (VCDMA) faculty and Game Design Advisory Board and consultants¹² designed the proposed degree program according to the MHEC, ABET & NASAD guidelines. These same members will assist with review, assessment and overseeing the two programs. The development of this program was driven in part by the growing demand by students in the VCDMA and computer science programs and inquiries by potential students. A program coordinator for each degree and in each department will oversee the programs.

2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

Program Educational Objectives: Both BS degrees and programs through their respective departments will develop computer scientists, creatives, technicians, and designers who can:

Demonstrate fluency in at least one programming or scripting language used in the production of interactive games and be an expert in at least one game development platform.

Demonstrate elements and principles of art/design, principles of animation, problem-solving and design thinking.

Develop and prototype a successful game, entertainment, and/or XR product and/or experience from concept to completion including but not limited to XR (VR, AR & MR).

Produce productions using motion capture, animation, films, special/visual effects, virtual production, and other innovations in technology in the gaming and entertainment industries.

Apply strategies to the gaming and entertainment industries with an entrepreneurial mindset and emphasis on innovation, collaboration, and diversity.

Student Learning Outcomes: Both BS degrees and programs will develop graduates who will be able to successfully and respective to each degree:

Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.**

Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. **

Communicate effectively in a variety of professional contexts.

¹² The BSU Game Design proposal consultants included Solomon Jagwe, Film Director, 3D Artist/Animator, Marianne Hayden, Lead Cinematics Animator, Skydance New Media, Alton Glass, Head of Immersive Media, GRX Immersive Labs, Christine Marsh, Adjunct Instructor (VCDMA) & Metaverse Platform Co-Founder, VCDMA; Roderick Woodruff, Co-Founder/Instructional Designer, Urban Video Game Academy

Recognize professional responsibilities and make informed judgments in computing

Practice based on legal and ethical principles. * *

Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. **

Communicate effectively in a variety of professional contexts.

**Recognize professional responsibilities and make informed judgments in computing
Practice based on legal and ethical principles. * ***

Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Apply computer science theory and software development fundamentals to produce computing-based solutions. **

Apply principles of visual organization, including the ability to work with visual elements in two and three-dimensions, color theory and its applications, and drawing. ***

Demonstrate knowledge and skills in the use of basic principles, concepts, tools, techniques, procedures, and technologies sufficient to produce animation art from concept to a finished product that communicates ideas and/or stories to a viewer or to an audience. ***

Demonstrate knowledge of the principles of animation, including its visual, spatial, and sound, motion, and temporal elements and features, and how these elements are combined in the development of animation art. ***

Utilize the characteristics and capabilities of various animation methods and technologies in creative and project development contexts (examples include but are not limited to stop motion, traditional animation, 2D Digital, 3D Digital, etc.). ***

Demonstrate knowledge of the history of animation, game design, immersive media, artistic and technological evolution, and an understanding of basic aesthetics, visual communication, and critical theory.

Collaborate and communicate with all members of teams at multiple stages of animation project development and in associated production processes (examples may include but are not limited to working with background artists, layout artists, title artists, lighters, riggers, production managers, writers, technicians, etc.).

Analyze and synthesize relevant aspects of human interaction in various contexts (physical, cognitive, cultural, social, political, and economic) and with respect to technologically mediated communication, objects, and environments. ***

Understand the importance of diversity, inclusion and the history, culture, and contributions of African Americans and other underrepresented groups in gaming, entertainment, and related industries.

Produce unique and innovative XR (AR, VR & MR) experiences and products to be used in other industries including but not limited to education, business, health, military, sports, the arts, humanities, and natural sciences, and demonstrate a successful portfolio with examples of research, gaming and/or entertainment products, writing and creative content.

****ABET: Accreditation Board for Engineering and Technology (Computer Science)**

***** NASAD: National Association of Schools of Art Design (Fine and Performing Arts, VCDMA)**

3. Explain how the institution will:

- a. provides assessment of student achievement of learning outcomes in the program**
- b. document student achievement of learning outcomes in the program**

Courses and curricula will be reviewed annually for effectiveness via course evaluations, course reviews, and assessments of student work, research, and projects that include senior capstones (products), portfolio reviews, and demonstrations to be reviewed by faculty and an advisory board. This board will consist of industry experts, strategic partners, and university faculty from other institutions. There will also be an extensive and periodic program review of the entire major through external reviewers as well as the College of Arts and Sciences and Academic Affairs. Additionally, there will be periodic program and curriculum reviews by the accrediting bodies such as the Accreditation Board for Engineering and Technology (ABET) and the National Association of Schools of Art and Design (NASAD) to retain membership and demonstrate program success, effectiveness, and accountability.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements

Course and credit hours requirements for the two majors and programs are listed in the tables below. Course descriptions are provided in Appendix A.

5. Discuss how general education requirements will be met, if applicable.

All students in the two majors and programs are required to take the general education courses listed in Appendix A. These courses are incorporated into each degree and to further strengthen the two programs.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements

Course and credit hours requirements for both BS degree programs are listed in the tables below and appendices A, B and C. Course descriptions are provided in Appendix C.

5. Discuss how general education requirements will be met, if applicable.

All students in both majors and programs are required to take the general education courses listed in the tables below and incorporated into each concentration to further strengthen the

program.

6. Identify any specialized accreditation or graduate certification requirements for this program and its students. None needed and/or not Applicable.

7. If contracting with another institution or non-collegiate organization, provide a copy of the written contract. Not Applicable

8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

The advisement and course scheme sequences as well as requirements, program goals will be provided to potential students at admission events as well as through intensive advisement, mentoring and program administration. Both CS and the DFPA will work with the Advisement Center, Admissions and URM to provide clear course schema and 4 –year plans for graduation. Please see Appendix A.

9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available

The program will use the existing promotion mechanisms in the Department of Computer Science and Department of Fine and Performing Arts and within the overall University. These include the undergraduate course catalog, departmental and university web pages, videos, social media and marketing literature. Additionally, folders with information on the major will be available at the admissions open house events and scholarship meetings. More information is available online:

Computer Science: <https://www.bowiestate.edu/academics/colleges/college-of-arts-and-sciences/ departments/computer-science/>

Fine and Performing Arts: <https://bowiestate.edu/academics/colleges/college-of-arts-and-sciences/ departments/fine-and-performing-arts/> and VCDMA program: <https://bowiestate.edu/academics/ colleges/college-of-arts-and-sciences/departments/fine-and-performing-arts/undergraduate programs/vcdma-major/>

H. Adequacy of Articulation

1. If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.

Bowie State has an articulation agreement from the DFPA with Prince George’s Community College. This program will continue to develop other agreements with other community colleges such as UDC, College of Southern Maryland. We seek to attract additional local public-school systems in the region to expand partnerships and develop a pipeline to BSU.

I. Adequacy of Faculty Resources (as outlined in COMAR 13B.02.03.11)

1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty members with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, and adjunct) and the course(s) each faculty member will teach in the proposed program.

Table 9. Computer Science Faculty. The table below catalogs the current full-time, tenure/tenure track faculty members from the Computer Science department who will support the launch of the Virtual Reality & Gaming program. Other part-time faculty are rotated each semester.

Name	Appointment Type & Rank	Terminal Degree	Field	Status	Courses to be taught
Ms. Patricia Hughes	Tenured / Asst Professor	MA-Univ of Wisconsin Madison	Computer Science	Full Time	Programming courses
Dr. Soo Yeon Ji	Tenured / Assoc Professor	Ph.D.-Virginia Commonwealth Univ	Computer Science	Full Time	AI, Discrete Structures
Dr. Darsana Josyula	Tenured / Professor	Ph.D.-Univ of Maryland College Park	Computer Science	Full Time	AI courses
Dr. Jie Yan	Tenured / Professor	Ph.D.- Harbin Institute of Technology	Computer Science	Full Time	Gaming and Virtual Reality courses
Dr. Bo Yang	Tenured / Professor	Ph.D.- Pennsylvania State University	Computer Science	Full Time	All Computer Science courses

Table 10. DFPA Faculty. The table below catalogs the current full-time, tenure/tenure-track, long term contractual faculty members from the Department of Fine and performing Arts (DFPA & VCDMA program). Fifty percent of the courses offered will be taught by full-time faculty. Other courses will be taught by adjuncts. (Highlighted faculty names indicate

specialized expertise in the field.)

Name	Appointment Type & Rank	Terminal Degree	Field	Status	Courses to be taught
Tewodross Melchishua Williams	Tenured / Professor	MFA, Intermedia & Digital Arts, UMBC	VCDMA	Full Time	2D Animation, Stop Motion Animation, Motion Graphics, Film production Cinematography Internship, History of Animation, Visual Culture, Portfolio review and Assessment (I and II); and Senior Thesis Exhibition and Capstone courses
Arthur Vidrine	Assistant Professor	MFA, Fine Arts, School of Visual Arts	Studio Arts (Fine Arts)	Full Time	2D, 3D Design, Art History, Photography
Robert Bartlett	Tenured / Assoc Professor	MFA, Playwriting, Catholic University; MA, English Language, Literature and Culture, Bowie State University	Theatre Arts/ VCDMA	Full Time	History of Animation, Screenwriting

Table 10. DFPA Faculty – cont’d

Name	Appointment Type & Rank	Terminal Degree	Field	Status	Courses to be taught
Ogechi Chieke	Assistant Professor	MFA, Computer Art, School of Visual Arts	VCDMA	Full Time	2D Animation, Cinematography Computer Graphics, Visual Literacy, Visual Communication Design
Amina Hammond	Adjunct Professor	MFA, Web Design, New Media, Academy of Art University	VCDMA	Part Time	Web Design, New Media, Animation and Motion Graphics
Kevin Holder	Adjunct Professor	MFA, Fine Arts, Howard University	VCDMA & Studio Arts (Fine Arts)	Part Time	Computer Graphics, Drawing, Painting
Myron Smith	Adjunct Professor	Master of Design, Illinois Institute of Technology	VCDMA	Part Time	Design History
Dr. Prince Ikegwuono	Adjunct Professor	D.Sc, Doctor of Science (D.Sc.), Information and Interaction Design, University of Baltimore MFA, Animation, Savannah College of Art and Design	VCDMA	Part Time	2D Animation, 3D Animation and Modeling, Stop-Motion Animation XR and Virtual Reality production, Game Design, Multimedia, Motion Graphics
Karla Bussey	Adjunct Professor	MFA, Computer Arts/New Media, Academy of Art University	VCDMA	Part Time	Motion Graphics, 3D Animation, Visual Effects

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidence-based best practices, including training in:

- a. Pedagogy that meets the needs of the students**
- b. The learning management system**

c. Evidence-based best practices for distance education if distance education is offered. Bowie State University provides:

- Continuous training for faculty in all departments relative to the Blackboard learning management system (virtual, hybrid, hyflex and in-person) and various modalities.
- Teaching best practices (for both classroom and online courses).
- Other tools, resources, and techniques to support course delivery.
- Through CETL workshops, Faculty Institute, Assessment and Course Development Coordinators, etc.

Additionally, the University supports faculty member involvement in discipline-specific professional memberships, which provide access to best practices in teaching subject matter. Faculty evaluations include how individual faculty members avail themselves of the available resources and implement improvements in their courses. Continuous faculty improvement also factors into ABET accreditation self-studies, providing additional incentive for all professors to remain engaged with their discipline and craft.

J. Adequacy of Library Resources (as outlined in COMAR 13B.02.03.12)

1. Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.

The Thurgood Marshall Library supports teaching and learning through a variety of materials and resources that can support a curriculum for Immersive Media, Gaming, Animation, and Computer Science. The library also supports this proposed major with a collection of over 280,000 volumes (physical and electronic), over 700 academic subscription titles, an electronic portal (Research Port) to over 70 databases, VERVERSI as well as videos and DVD recordings, and an experienced staff. The library also promotes information literacy education by collaborating with the University faculty in utilizing current technology and teaching methods to enhance an instructional program that teaches library clientele how to access, evaluate, and utilize information. The Thurgood Marshall Library is a member of the University of Maryland system and Affiliated Institutions (USMAI), strengthening the resource base for all users. As a member of (USMAI), Bowie State University also has access to the collections of thirteen university libraries in the state of Maryland. In addition to borrowing privileges, the Marshall Library also offers ILL (Interlibrary Loan). Materials not available within USMAI can be requested through interlibrary loan, a nationwide resource for library users. A daily delivery between the participating libraries is provided to assist patrons in obtaining materials from other libraries in the system. In addition, all registered patrons have access to interlibrary loan services, which is a resource sharing system, for materials not available within the USMAI. The library's physical and digital collection of books and resources are appropriate for the proposed new major and program. This collection is presently serviceable for the instructional and research expectations upon this program's majors. To ensure that this collection is more than sufficient for background reading and research undertakings by students in all this program's core and elective courses, the program's faculty are making requests for acquisitions of hundreds of additional volumes, and those requests will be fulfilled during the coming academic year.

**K. Adequacy of Physical Facilities, Infrastructure, and Instructional Equipment
(as outlined in COMAR 13B.02.03.13)**

1. **Provide an assurance that physical facilities, infrastructure, and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences.**

Computer Science the Computer Science Building opened to the BSU community in 2002 as a “state of the art” facility that houses instructional, laboratory, and research spaces for Computer Science and related disciplines. The laboratory space will serve the complete needs of Virtual Reality & Gaming students. The computer science building includes sufficient flexibility in both classroom, office space, and laboratory space to accommodate the student body increases resulting from the launch of the new degree. The computer resources are available to faculty members and students in the Computer Science Department at BSU. These include fifteen general-purpose computing labs and five research labs. The research labs are described in the project description. Each of the general-purpose labs has 10 to 20 computers. Ten of the labs have computers with 22-inch monitors of the following specification:

- Platform: Windows 10 (64bit), Memory: 16 GB,
- Processor: Intel Xeon CPU E5-1620 v3 @ 3.50GHz,
- Motherboard: Dell Inc. 0K240Y,
- Graphics: NVIDIA Quadro K620 2.0 GB,
- Audio: NVIDIA High-Definition Audio, Realtek Audio,
- Optical: Tschopp DVD+-RW SH-216DB,
- Network: Intel(R) Ethernet Connection I217-LM, and
- Hard Drive: 500GB

Another ten labs have computers with the following specifications:

- Dell Precision Tower 5810,
- Platform: Windows 10 (64bit), Memory:16 GB,
- Processor: Intel Xeon CPU E5-1620 v3 @ 3.50GHz,
- Motherboard: Dell Inc. 0HHV7N,
- Graphics: AMD FirePro W2100 (FireGL V) Graphics Adapter 2.0 GB
- Audio: AMD High Definition,
- Audio Device Realtek Audio,
- Optical: HL-DT-ST DVD+-RW GTA0N,
- Network: Intel(R) Ethernet Connection I217-LM, and
- Hard Drive: 350GB

There are also conference rooms where faculty and students meet to discuss research and make presentations when needed.

The Department of Fine and Performing Arts (DFPA) The Department of Fine and Performing Arts (DFPA) students prepare for success in the Fine and Performing Arts Center (FPAC) a beautiful space featuring a movement studio, band room, Steinway piano rooms and rehearsal studios, a recital hall, a multimedia recording studio, fashion design studio, costume shop, digital music lab, and two theaters. FPAC also hosts two Apple computers and digital media labs with 36 stations; painting, visual art studio, printmaking, painting drawing, ceramic,

3D design/sculpture and photography rooms and studios, and a stop-motion animation studio powered by Laika Studios and a video edit suite set to launch in 2022-23. There are adequate faculty and staff support offices; a conference room, a student lounge and an additional art resource room for possible instruction, collaboration research and presentations to meet with outside guests, presenters, and partners. The Visual Communication & Digital Media Arts program (VCDMA) provides the latest in technology, film/video, and media production equipment and 4K DSLR and digital cinema cameras, audio, lighting, rigging, dollies and much more. The VCDMA program offers 2D/3D animation software, large format printers and resources for research in design, media arts, fashion/costume design, film, animation, visual communication as well as hip-hop studies and visual culture. BSU recently received generous funding and support from Adobe and is now offering the Adobe Creative Cloud suite of creative applications to all students and faculty on campus. The digital media labs in FPAC provide access to the following software: Autodesk Maya, CLO3D, Cinema 4D, Adobe After Effects, Photoshop, Illustrator, Animate, Premiere, Audition, XD, Acrobat; as well as Apple based software such as Final Cut Pro, Compressor, Motion, and screenwriting software, Celtx. Additional animation software includes Toon Boom Harmony, Storyboard Pro and DragonFrame. Most classrooms and spaces in both the Computer Science building and Fine and Performing Arts Center are equipped with smart boards, computers, and hyflex classrooms, AV projection capabilities. The small incremental increase in class sections each semester for the majors will not strain the usage of classroom space or instructional resources. Bowie State provides all students with full access to campus counseling, academic advisement services, IT support services, retention support and other administrative resources.

Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to:

- a. An institutional electronic mailing system, and
- b. A learning management system that provides the necessary technological support for distance education

Students that take online course offerings within both programs will receive support comparable to that provided to residential students. All students will receive access to technology tools required to complete coursework and research, including University email support, LMS support, software development environment tools (compilers, editors, DBMS), and full access to the BSU IT help desk personnel. The Department of Computer Science has signed an agreement with Tele-Communications Systems to provide a cloud-based virtual lab environment and lab exercises accessible to online and residential students. The Department of Fine and Performing Arts also provides mixed modalities of instruction through classrooms/labs that are also equipped with smart boards, cameras, monitors, mobile and stationary hyflex/hybrid teaching spaces, and studios to support blended and flipped classrooms and support of students no matter where they are (online or in person); synchronous or asynchronous.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR 13B.02.03.14)

BSU demonstrates its commitment through budget reallocation and support from staff offices such as the library and IT department.

Table 11. Resources. This table projects revenue for full-time-equivalent students and part-time equivalent students for the initial five-year period. The department estimates that 10 new students will be admitted in the first year, 2-5 the second year, etc., increasing to a max of 30 full-time students in Years Four and Five, respectively. Part-time students are expected to be nominal. Graduates are expected by the fourth year.

TABLE 1: DEPARTMENTS OF COMPUTER SCIENCE & FINE AND PERFORMING ARTS RESOURCES					
Resource Categories	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
1.Reallocated Funds ¹	0	0	0	0	0
2. Tuition/Fee Revenue ² (c+ g below)	72,577	85,887	152,988	214,288	302,704
a. #Full-Time Students	10	12	18	25	30
b. Annual Tuition/Fee ⁴	8,753	8,928	9,107	9,289	9,475
c. Annual Full-Time Revenue (a x b)	87,530	107,137	163,919	232,219	284,236
d. # Part-Time Students	3	4	6	8	10
e. Credit Hour Rate ⁵	258	263	268	274	279
f. Annual Credit Hours	18	20	40	40	60
g. Total Part-Time Revenue (d x e x f)	13,932	21,053	64,422	87,613	167,560
3. Grants, Contracts, & Other External Sources ³	0	0	0	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1 – 4)	72,577	83,887	152,988	214,288	302,704

1. Whenever reallocated funds are included among the resources available to new programs, the following information must be provided in a footnote: origin(s) of reallocated funds, impact of the reallocation on the existing academic program(s), and the way the reallocation is consistent with the institution’s strategic plan.

2. This value represents 67% of the projected total Tuition & Fee revenues for Full-Time & Part-Time students since mandatory fees are allocated to Auxiliary PT rate only reflects the tuition rate.

3. Whenever external funds are included among the resources; the following information must be provided in a footnote: source of the funding and alternative methods of funding the program after the cessation of external funding.

4. Tuition Rate is based on the posted FY 2023 Proposed Tuition and Rate schedule with a 2% increase in the subsequent years.

5. Credit Hour Rate is based on the FY 2023 Proposed Tuition & Rate Schedule with a 2% increase in the subsequent years.

Table 12. Department of Computer Science Expenditures

This table describes projected expenditures. Although most of the faculty and support staff, instructional tools, and facilities are already in place in the Department of Computer Science (CS), it is anticipated that the new proposed program will require an additional full-time faculty member and one adjunct faculty.

TABLE 2: EXPENDITURES COMPUTER SCIENCE					
Expenditure Categories	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
1. Total Faculty Expenses (b + c below)	92,249	94,094	95,975	97,895	99,852
a. # FTE	1	1	1	1	1
b. Total Salary ¹	69,360	70,747	72,162	73,605	75,077
c. Total Benefits ²	22,889	23,347	23,813	24,290	24,775
2. Total Assistant Systems Administrator Expenses (b + c below)	71,559	72,990	74,451	75,940	77,459
a. # FTE	1	1	1	1	1
b. Total Salary ³	53,804	54,880	55,978	57,098	58,240
c. Total Benefits ⁴	17,755	18,110	18,473	18,842	19,219
3. Total Adjunct Expenses (b + c below)	42,120	42,962	43,822	44,698	45,592
a. # FTE	1	1	1	1	1
b. Total Salary ⁵	39,000	39,780	40,576	41,387	42,215
c. Total Benefits ⁶	3,120	3,182	3,246	3,311	3,377
4. Equipment ⁷	10,000			10,000	
5. Library					
6. New or Renovated Space					
7. Other Expenses	5,000	5,000	5,000	5,000	5,000
TOTAL (Add 1 - 7)	220,928	215,046	219,248	233,533	227,903

1-Average Salary for Assistant Professors in Computer Science for FY 2021 with a 2% increase in subsequent years.

2-Average Benefits for Assistant Professors in Computer Science for FY 2021 is 33% of salary with a 1% increase in subsequent years.

3-Average Salary for Assistant Systems Administrator in FY 2021 with a 2% increase in subsequent years.

4-Average Benefits for Assistant Systems Administrator in FY 2021 is 33% with a 1% increase in subsequent years.

5-Average Salary for Adjunct Faculty (\$6,500 per course x 6 courses) in FY 2021 with a 2% increase in subsequent years.

6- Average Benefits for Adjunct Faculty in FY 2021 is 8% with a 1% increase in subsequent years. 7-Equipment is the cost for (2-3) computers on a three-year replacement cycle.

Table 13: DFPA Expenditures. This table describes projected expenditures. Although most of the faculty and support staff, instructional tools, and facilities are already in place in the Department of Fine and Performing Arts (DFPA), it is anticipated that the new proposed program will require an additional full-time faculty member, one program coordinator/faculty and an adjunct professor. Additional costs for advertising and promotional materials are estimated at \$3, 500/year.

TABLE 2: EXPENDITURES DFPA					
Expenditure Categories	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
1. Total Faculty Expenses (b + c below)	86, 450	88, 179	89, 942	91, 742	93, 817
a. # FTE	1	1	1	1	1
b. Total Salary ¹	65, 000	66, 300	67, 626	68, 979	70, 539
c. Total Benefits ²	21, 450	21, 879	22, 316	22, 763	23, 278
2. Total Faculty Coordinator Expenses (b + c below)	94, 750	99, 070	101, 153	103, 176	105, 240
a. # FTE	1	1	1	1	1
b. Total Salary ³	70, 000	71, 400	72, 828	74, 285	75, 771
c. Total Benefits ⁴	24, 750	27, 670	28, 325	28, 891	29, 469
3. Total Adjunct Expenses (b + c below)	6, 480	6, 610	6, 741	6, 876	7, 014
a. # FTE	1	1	1	1	1
b. Total Salary ⁵	6, 000	6, 120	6, 242	6, 367	6, 494
c. Total Benefits ⁶	480	490	499	509	520
4. Equipment ⁷	50, 000		75, 000		
5. Library					
6. New or Renovated Space					
7. Other Expenses	2, 500	2, 500	2, 500	2, 500	2, 500
TOTAL (Add 1 - 7)	240, 180	196, 359	207, 836	204, 294	208, 571

1-Average Salary for Assistant Professors in DFPA for FY 2021 with a 2% increase in subsequent years.

2-Average Benefits for Assistant Professors in DFPA for FY 2021 is 33% of salary with a 1% increase in subsequent years.

3-Average Salary for Program Coordinator in FY 2021 with a 2% increase in subsequent years. 4-Average Benefits for Program Director in FY 2021 is 33% with a 1% increase in subsequent years.

5-Average Salary for Adjunct Faculty (\$3, 000 per course x 2 courses) in FY 2021 with a 2% increase in subsequent years.

Average Benefits for Adjunct Faculty in FY 2021 is 8% with a 1% increase in subsequent years.

6-Equipment is the cost for computers, upgrades, motion capture suits, software on a three-year replacement cycle.

M. Adequacy of Provisions for Evaluation of Program (as outlined in COMAR 13B.02.03.15) 1. Discuss procedures for evaluating courses, faculty, and student learning outcomes.

Courses and curriculum will be reviewed annually for effectiveness via course evaluations, course reviews and assessments of student work, research, projects, including capstones, portfolio reviews and demonstrations to be reviewed by faculty and an advisory board. This board will consist of industry experts, strategic partners as well as university faculty from other institutions. There will also be extensive program review of the entire major by external reviewers as well as the College of Arts and Sciences and Academic Affairs. The processes for evaluating courses, faculty, and student learning outcomes will follow the guidance presented by the ABET Council on Computing. Industry and graduate schools recognize ABET accreditation as the hallmark of excellence in undergraduate STEM education.

Faculty evaluation will follow BSU guidelines for all faculty members, including evaluation input from students, administrators, and departmental personnel, per COMAR 13b.02.03.15. In addition, faculty evaluations will include the following:

- Evaluation of faculty qualifications and how they are adequate to cover all the curricular areas of the two majors and programs—this will include the size, specialization, credentials, and experience of the faculty.
- Analysis of faculty workload; and
- Professional development opportunities for each faculty member.

Evaluation of student learning outcomes in Computer Science will be based on assessment of the stated ABET and outcomes using the continuous improvement processes. Additionally, for the Department of Fine and performing Arts (VCDMA) once membership is obtained, there will be periodic reviews by accrediting bodies such as NASAD: National Association of Schools of Art and Design to retain membership and demonstration of program success, effectiveness, and accountability.

2. Explain how the institution will evaluate the proposed program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.

The evaluation of the program educational objectives will follow the same process currently used for both BS degrees and majors and for each department. Evaluation of the program's educational effectiveness will include:

- Ensuring that the program's educational objectives are aligned to the BSU mission.
- Ensuring that the program's educational objectives align to the needs of the constituencies.
- Following a documented process and timeline to review the program educational objectives. Following a documented process to ensure that the student outcomes are mapped to the program educational objectives.
- Analyzing how the program's requirements and its associated prerequisite structure support the attainment of student outcomes.
- Analysis of program criteria describing how the program meets the specific requirements for the Game Design, Animation, XR and entertainment fields as they evolve. Analysis of materials (syllabi, textbooks, samples of student work—low, medium, and high graded) that will be available for accreditors during site visits.
- Analysis of class size on achievement of learning outcomes.
- Evaluation of student retention and student achievement will follow established BSU policy used by all departments. The courses, the program's effectiveness, enrollment, retention and graduation rates, students, instructors, and staff satisfaction will be evaluated using student, faculty, and staff surveys and program committee reviews on a regular basis.

N. Consistency with the State’s Minority Student Achievement Goals (as outlined in COMAR 13B.02.03.05)

1. Discuss how the proposed program addresses minority student access & success, and the institution’s cultural diversity goals and initiatives.

As Maryland’s first historically Black institution, Bowie State University is committed to providing high quality higher education to African Americans and other underrepresented minorities. The goals established in the University’s Racing to Excellence FY 2019 – FY 2024 Strategic Plan supports student achievement and long-term viability of the institution and align with the goals in the *2017-2021 State Plan for Postsecondary Education: Student Success with Less Debt*. Specifically, Bowie continues to:

- Support educational opportunity for Marylanders (Success, Strategy 4)
- Engage in a continuous improvement process to ensure that institutional policies and practices support student success (Success, Strategy 5).
- Provide alternative modalities, new programs and pedagogies and streamlined student and academic support services to facilitate timely degree completion (Success, Strategy 6) (Innovation, Strategy 9).
- Integrate high impact practices into the student experience, including career advising and planning into internship experiences (Success, Strategy 7).
- Partner with business, government, and other institutions to support workforce development and
- Graduate readiness (Innovation, Strategy 8).
- Expand support for grant participation and research (Innovation, Strategy 10).

Bowie State faculty, staff, students, and administrators are engaging in change management strategies and embracing experimentation so that we can better meet the holistic needs of our students (Innovation, Strategy 11). Bowie State University has a long-standing core commitment to diversity; it values and celebrates diversity in all its forms. The University community believes that its educational environment is enriched by the diversity of individuals, groups, and cultures that come together in a spirit of learning. As the University aspires to even greater racial diversity, it fully embraces the global definition of diversity that acknowledges and recognizes differences and advances knowledge about race, gender, ethnicity, national origin, political persuasion, culture, sexual orientation, religion, age, and disability. The university creates positive interactions and cultural awareness among students, faculty, and staff through infusing global diversity awareness in the curriculum, expanding co-curricular programming that promotes diversity awareness, and maintaining a campus climate that respects and values diversity.

O. Relationship to Low Productivity Programs Identified by the Commission

This new program has no relationship with a low productivity program identified by the Commission.

P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)

1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.

The university has the resources to offer a quality distance education program. It utilizes the state-of-the-art Blackboard system and cloud-based virtual laboratories. All faculty are trained in offering distance learning courses.

2. Provide assurance and any appropriate evidence that the institution complies with the C RAC guidelines, particularly as it relates to the proposed program.

Bowie State University is a participating institution of NC-SARA and has met the nine guidelines as required by the Council of Regional Accrediting Commissions (C-RAC).

APPENDIX A. – Course Schema and 4 –Year Plans for both BS degrees

Core Courses (for both majors) shared by CS and DFPA:

Course #	Course Title	Credit Hours
COSC 109	Gaming I	3
COSC 112	Computer Science I	4
COSC 113	Computer Science II	4
COMM 220	Gaming Industry: Principles, Strategies and Fundamentals	3
COSC 209	Gaming II	3
COSC 214	Data Structures and Algorithms	4
COSC 309	Gaming III	3
COSC 317	Augmented, Virtual & Mixed Reality	3
Course #	Course Title	Credit Hours
VCDM 394	History of Animation or VCDM 367 Design History	3
VCDM 396	2D Digital Animation I or VCDM 392 Motion Graphics	3
COSC 477	XR Virtual Reality and its Principles	3
COSC 479	Immersive XR Virtual Reality	3
COSC 494	Gaming IV (Capstone)	3
Total Core Courses		42

Supporting Courses:

Course #	Course Title	Credit Hours
MATH 155	Probability and Statistics (CS)	3
MATH 225	Calculus I	4
COSC 208	Discrete Structures	3
MATH 228	Linear Algebra	3
ENGL 362	Technical Writing	3
BIOL 101	Biological Science (Life Science)	4
PHYS 271	General Physics I (Physical science)	4
Total Supporting Requirements Credits		24

Additional supportive courses (suggested):

IDIS 110 Introduction to Entrepreneurship and or IDIS 210 Problem-Solving Using Design Thinking, MGMT 101 Introduction to Business (- 3 CREDITS each). Other COSC, VCDM, ART, ENGL, MGMT & MKTG elective courses in Computer Science and VCDMA, Studio Arts (Fine Arts), Language, Literature and Cultural Studies, Business and Marketing.

Course #	Course Title	Credit Hours
COMM 101	Oral Communications	3
Arts and Humanities elective		3
Social Sciences		6
HIST 114 or HIST 115	African American History to 1865 African American History since 1865	3
Social Sciences Elective		3
Technology FULFILLED BY MAJOR		3/4
Total General Education		46/47

BS Degree in Virtual Reality & Gaming, Computer Science Required Courses

Course #	Course Title	Credit Hours
COSC 374	Object-Oriented Design	3
COSC 375	Object Oriented Design and Development	3
COSC 402	Software and Operating System Security	3
COSC 418	Principles of Computer Graphics (required)	3
COSC 431	Database Management (required)	3
COSC 465	Software Engineering (required)	3
COSC 469	Advanced Software Engineering (required)	3
COSC 473	Artificial Intelligence (required)	3
COSC 474	Machine Learning and Discovery	3
COSC 476	Natural Language Processing	3
COSC 485	Data Communications and Networks	3
Total Required Course Credits: 33		

BS, Virtual Reality & Gaming course scheme and 4-year plan General Education and Institutional Requirements

Freshman Year

<u>First semester</u>	<u>Credit</u>	<u>Second Semester</u>	<u>Credit</u>
COSC 112 Computer Science I	4	COSC 113 Computer Science II	4
MATH 225 Calculus I	4	MATH 226 Calculus II	4
ENGL 101 Expository Writing	3	ENGL 102 Argument and Research	3
FRSE 101 Freshman Seminar	3	COMM 101 Oral Communication	3
COSC 109 Gaming I	3	COSC 209 Gaming II	3
Total:	17	Total:	17

Sophomore Year

<u>First semester</u>	<u>Credit</u>	<u>Second Semester</u>	<u>Credit</u>
COSC 208 Discrete Structures	3	COMM 200 Gaming Industry: Principles and Fundamentals	3
COSC 214 Data Structures and Algorithms	4	MATH 228 Linear Algebra	3
IDIS 110 Introduction to Entrepreneurship	3	BIOL 101 Biological Science	4
MATH 155 Probability and Statistics	3	HIST 114 or 115 African American History	3
Social /Behavioral Science Gen Ed Elective	3	Health and Wellness Elective	3
Total:	16	Total:	16

Junior Year

<u>First semester</u>	<u>Credit</u>	<u>Second Semester</u>	<u>Credit</u>
PHYS 271 General Physics	3	COSC 418: Principles of Computer Graphics	3
COSC 309 Gaming III	3	VCDM 394 History of Animation	3

COSC 317 Augmented, Virtual & Mixed Reality	3	ENGL 362 Technical Writing for Computer Science (suggested)	3
		Arts and Humanities Gen Ed Elective	3
COSC 431: Database management	3	COSC 465: Software Engineering	3
Total:	12	Total:	15

Senior Year

<u>First semester</u>	<u>Credit</u>	<u>Second Semester</u>	<u>Credit</u>
VCDM 396 2D Animation I	3	COSC 429: Data Visualization	3
COSC 477 Virtual Reality & its Principles	3	COSC 479 Immersive Virtual Reality	3
COSC 469: Advanced Software Engineering	3	COSC 499 Gaming IV	3
COSC 473: Artificial Intelligence	3	COSC 474 Machine Learning	3
Elective	3		
Total:	15	Total:	12

BS Degree, Immersive Media, Entertainment and Gaming (IMEG), Fine and Performing Arts (VCDMA) required courses

Course #	Course Title	Credit Hours
ART 101	2D Design (required) GEN ED	3
ART 102	3D Design or ART 310/311 Sculpture (required)	3
ART 110	Intro to Drawing (required GEN ED)	3
MUSC 230	Intro to Sound Design for Visual Media: Animation, Film, Gaming	3
VCDM 215	Animation: Design, Concepts and Principles	3
VCDM 219	Portfolio Review and Assessment I (required)	0 (Pass/Fail)
VCDM 220	Gaming, Animation and Entertainment Design I	3
VCDM 230	Computer Graphics	3

**BS Degree, Immersive Media, Entertainment and Gaming (IMEG),
Fine and Performing Arts (VCDMA) required courses continued:**

VCDM 320	Gaming, Animation and Entertainment Design II	3
VCDM 368	Special Topics: Immersive Media Arts & Design I	3
VCDM 378	Special Topics: Immersive Media Arts & Design II	3
VCDM 394	History of Animation OR VCDM 367 Design History OR VCDM 408 Visual Culture (required)	3
VCDM 396	2D Digital Animation I or VCDM 392 Motion Graphics I	3
VCDM 464	Special Topics: Virtual Production Studio	3
VCDM 468	Game Development & Design Project II (Senior Capstone)	0 (Pass/Fail)
VCDM 496	3D Modeling & Animation I (required)	3
VCDM 497	3D Modeling & Animation II (required)	3
VCDM 419	Portfolio Review and Assessment II	0 (Pass/Fail)
VCDM 491	Internship/Apprenticeship in Visual Communication	1
		46 Credit Hrs.

**GENERAL EDUCATION
REQUIREMENTS**

English Composition (6 semester hours)

ENGL 101 - Expository Writing - 3 CREDITS
ENGL 102 - Argument and Research - 3 CREDITS

Arts and Humanities (6 semester hours)

Arts and Humanities Electives - 3 CREDITS
Arts and Humanities Electives - 3 CREDITS

Natural Sciences (7-8 semester hours; at least one of which shall be a laboratory course)

Science Elective 3/4 Credits
Science Elective w/laboratory course - 4 CREDITS

Mathematics (3 semester hours)

MATH 125 College Algebra - 3 CREDITS
MATH 127 Introduction to Math Ideas - 3 CREDITS
MATH 128 Elementary Geometry (prerequisite is MATH 127) - 3 CREDITS

Social & Behavioral Sciences (6 semester hours)

Social/Behavioral Elective - 3 CREDITS
AND *HIST 114 - African American History to 1865 OR
*HIST 115 - African American History Since 1865 - 3 CREDITS (Choose one)
*One is mandatory

Technology (3 semester hours) - choose one

COSC 110 - 3 CREDITS
COSC 111 - 3 CREDITS
COSC 112 - 3 CREDITS
COSC 113 - 3 CREDITS
CTEC 111/114/125 - 3 CREDITS

Health & Wellness (3 semester hours) - choose one

HEED 102 Life and Health or

HEED 200 Fundamentals of Sex Education or IDIS 210 Women's Health Issues - 3 CREDITS

Freshman Seminar (3 semester hours)

FRSE 101 Freshman Seminar - 3 CREDITS
Substitute course if transferring in more than 12 credits

Free General Education Electives (9 semester hours) Free General Education Electives: 9 semester credits for Bachelor of Science (BS) degree. Selected courses chosen from any category within the General Education Course (GE) List. See advisor and refer to catalog for approved courses. **Total General Education (GE) Requirements: 46/47 credits**

Immersive Media, Entertainment and Gaming (IMEG)

Freshman Year

First Semester		
ART 101	2D Design	3 CREDITS (GE)
ART 110/ART 111	Introduction to Drawing or Life Drawing	3 CREDITS (GE)
ENGL 101	Expository Writing	3 CREDITS (GE)
HEED 102	Life and Health	3 CREDITS (GE)
FRSE 101	Freshman Seminar	3 CREDITS (GE)
First Semester Total:		15 Credits

Second Semester		
ART 102	3D Design or ART 310/311 Sculpture	3 CREDITS
COSC 112	Computer Science I	4 CREDITS (GE)
ENGL 102	Argument and Research	3 CREDITS (GE)
MATH 127	Introduction to Math Ideas	3 CREDITS
VCDM 230	Introduction to Computer Graphics	3 CREDITS (GE)
Second Semester Total:		16 Credits

Sophomore Year

First Semester		
COMM 101	Oral Communication or COMM 220 Gaming Industry: Principles, Strategies and Fundamentals (or COMM 103)	3 CREDITS
COSC 113	Computer Science	4 CREDITS
COSC 209	Gaming II	3 CREDITS
VCDM 215	Animation: Design, Concepts and Principles	3 CREDITS
**VCDM 219	Portfolio Review & Assessment (0 Credits)	PASS/FAIL
VCDM 220	Gaming, Animation and Entertainment Design I	3 CREDITS
First Semester Total:		16 Credits

Second Semester		
COSC 214	Data Structures and Algorithms	4 CREDITS
MUSC 230	Intro to Sound Design for Visual Media: Animation, Film, Gaming and Entertainment	3 CREDITS (GE)
VCDM 320	Gaming, Animation and Entertainment Design II	3 CREDITS
VCDM 394	History of Animation or VCDM 367 Design History or VCDM 267 History of Game Design, Immersive Media and Entertainment Arts (choose one)	3 CREDITS
Science Elective	Biology or Physics 101	3-4 CREDITS (GE)
Second Semester Total:		16 or 17 Credits

Junior Year

First Semester		
COSC 309	Gaming III	3 CREDITS
HIST 114/115	African American History to 1865 or African American History Since 1865	3 CREDITS (GE)
MATH 125	College Algebra	3 CREDITS

VCDM 396	2D Animation or VCDM 392 Motion Graphics I	3 CREDITS
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VCDM 496	3D Modeling & Animation I	3 CREDITS
First Semester Total:		15 Credits

Second Semester		
ART/VCDMA elective 300/400 level studio	VCDM 392 Motion Graphics VCDM 395 Stop-Motion Animation (397) or other	3 CREDITS
COSC 317	XR-Augmented, Virtual and Mixed Reality	3 CREDITS
VCDM 378	Special Topics: Immersive Media Arts & Design	3 CREDITS
VCDM 497	3D Modeling & Animation II	3 CREDITS
_____	Social/Behavioral Science Elective (PSYC, SOCI, ANTH 101)	3 CREDITS (GE)
Second Semester Total:		18 Credits

Senior Year

First Semester		
COSC 477	Virtual Reality and its Principles	3 CREDITS
COSC 479	Immersive Virtual Reality	3 CREDITS
VCDM 368	Animation, Game Design and Production I	3 CREDITS
VCDM 491	Internship (or VCDM 492)	1 CREDIT
VCDM 464	Special Topics: Virtual Production Studio	3 CREDITS
Second semester Total:		13 Credits

Second Semester		
COSC 494	Gaming IV (Capstone)	3 CREDITS
ENGL 361	Technical Writing or ENGL 333 Graphic Novels (253/261) – Choose one	3 CREDITS

Science Elective	Biology (BIOL 101, 203 or PHYSICS 101)	3 CREDITS (GE)
*** VCDM 468	Game Development & Design Project II (Senior Capstone) Portfolio Review &	3 CREDITS Pass/Fail
*** VCDM 419	Assessment II (2nd Review)	0 CREDITS PASS/FAIL
Second semester Total: 12		12 Credits

TOTAL PROGRAM CREDITS:

121-122

Additional Requirements

** VCDM 219 Portfolio Review & Assessment (1st Review): 0 Credits, Pass/Fail; required. Students must submit a portfolio and successfully pass the 1st and 2nd portfolio review/assessment. In addition, they must submit a senior capstone for a game design or XR project proposal, min. 2 pages, typed with sketches, references, storyboards, prototype, etc.

** VCDM 419 Portfolio Review & Assessment II (2nd Review): 0 Credits, Pass/Fail; required. Students must submit a portfolio and successfully pass the 1st and 2nd portfolio review/assessment. In addition, they must submit a senior capstone for a game design or XR project proposal, min. 2 pages, typed with sketches, references, storyboards, prototype, etc.

** VCDM 468 Senior Capstone: The Product. 0 Credits, Pass/Fail; required. Students must submit, test, display and/or exhibit to VCDM faculty a successful senior capstone product or prototype such as a game and/or XR experience and based in the approved project proposal. A written evaluation of the product is required as well as documentation from concept to completion, blog, sketches, iterations, website (portfolio). (GE) = General Education (CS) = Computer Science (VCDM) = VCDMA ** Assessment/Internship/Graduation Requirements (VCDMA)

APPENDIX B. COURSE DESCRIPTIONS

COMPUTER SCIENCE

COSC 109: Gaming I - 3 Credits. *Prerequisite(s): None.* This course will introduce students to the process of good game design. Students will work in teams in an iterative process to design, implement, and evaluate a 2D game. Topics will include idea generation, storyboarding, and human computer interaction. The course will include readings, play testing, and each team will present their completed game in a game showcase at the end of the course.

COSC 209: Gaming II - 3 Credits. *Prerequisite(s): COSC 109 or COSC 112.* This course focuses on designing simple playable games, each exploring different aspects of game design such as rule design, game balance, multiplayer strategy, complexity, randomness, narrative, psychology, emergent behavior and aspects of physical game bit and interface design. The course will cover game design concepts through readings, presentations, play testing, and emphasize hands-on development of games.

COSC 309: Gaming III - 3 Credits. *Prerequisite(s): COSC 113, 209.* This course introduces techniques used to create computer animation. Topics include principles of animation, motion planning, and generation, key framing, kinematics, inverse kinematics, and motion technology. Students will develop a game using Computer Graphics Library.

COSC 317: Augmented, Virtual and Mixed Reality - 3 Credits. *Prerequisite(s): COSC 113, 209:* This course introduces students to the design process for producing virtual reality (VR), augmented reality (AR), and mixed reality (MR) games. The course covers a wide range of literature and practice starting from the original computer science and HCI concepts through the evolution of all supporting technologies including visual displays (for VR, AR, and MR), motion tracking, interactive 3D graphics, multimodal sensory integration, immersive audio, user interfaces, IoT, games and experience design.

COSC 489: Immersive Virtual Reality - 3 Credits. *Prerequisite(s): COSC 317, 477:* This course covers the technical and experiential design foundation required for the implementation of immersive environments in virtual, augmented, and mixed reality platforms. This course will apply player-centric game design frameworks to create immersive 3D experiences using the latest hand-held and wearable devices. Project work will explore how VR-AR game design can make immersive experiences more fun, how game engines with extended reality devices are becoming the film cameras of the future for immersive cinema and 3D animation.

COSC 499: Gaming IV - 3 Credits. *Prerequisite(s): COSC 309, 477:* This game design and development capstone course will involve a full production cycle of game development from brainstorming concepts to designing, implementation, playtesting, and evaluating a complete game. Topics will include graphics game engines, motion generation, behavioral control for autonomous characters, interaction structure, and social and interface issues of multi-user play. The course will emphasize hands-on development of games and students will document their work in the form of written reports and oral presentations.

COSC 112: Computer Science I - 4 Credits. *Prerequisite(s): None.* (Students without programming experience may be advised to take COSC 111 before or concurrently with COSC 112.) This course is a study of the formal syntax and semantics of a programming language. Topics include expressions, assignments, declarations, control structures, arrays, data abstractions, subprograms, user interfaces, error handling, end of file handling, and string handling. Aspects of Software Engineering include top-down design, structured programming, and style in programming conducted in a block structured language. Ethical and social issues include information privacy, data reliability, data security, including wiretapping and encryption and ergonomics. This course may be used to satisfy the General Education Requirement in the Technology category.

COSC 113: Computer Science II - 4 Credits. *Prerequisite(s): COSC 112.* Prerequisite or taken concurrently: MATH 141 or MATH 150. Students are introduced to the programming tools required to solve a more advanced set of problems. Students further develop their knowledge of the principles of object-oriented design and programming, including the use of interfaces and inheritance. Topics include arrays, strings, records, classes, inheritance and composition, pointers, recursion, and linked lists. It is designed for students who have prior training in computer concepts and terminology. Professional ethics and social issues (including sustainability) which relate to professionalism in Computer Science are also considered. This course may be used to satisfy the General Education Requirement in the Technology category.

COSC 214: Data Structures and Algorithms - 4 Credits. *Prerequisite(s): COSC 113 or COSC 190.* This course explores the definitions and implementations of basic data structures such as stacks, queues, linked lists, binary trees, etc.; internal searching and sorting algorithms; and garbage collection algorithms. Design of sort and search algorithms and introductory analysis associated with the basic data structures, as well as recursive algorithms, are discussed.

COSC 208: Discrete Structures - 3 Credits. *Prerequisite(s): COSC 113 or COSC 190 and either MATH 141 or MATH 150.* The course covers fundamental mathematical concepts and algebraic structures, such as Logic, Sets, Relations, Functions, Induction and Recursion, Probability & Statistics, and an introduction to the theory of graphs and trees. It is a course in discrete mathematics that is an integral part of computer science's undergraduate curriculum. The course's purpose is to ensure that the students become comfortable with the theoretical framework within which ideas in computer science are expressed.

COSC 374: Object- Oriented Design and Development - 3 Credits. *Prerequisite(s): COSC 214.* This course covers the design and development of object-oriented programs. Specifically, students will study object-oriented design methods, classes, inheritance, polymorphism, and software engineering issues. Students will acquire the ability to analyze a problem using object-oriented techniques. They also will learn a widely used object-oriented language such as JAVA, using a Unix platform.

COSC 477 – Virtual Reality and its Principles - 3 Credits. *Prerequisite(s): or taken concurrently: COSC 113; or consent of instructor.* This course introduces students to Virtual Reality (VR) hardware and software. It provides an opportunity for them to apply this knowledge to applications for education and games. This course applies cutting-edge virtual reality technology currently available in academia and industry. Students will design, model, and script the VR environment by developing a complete VR application as a group project.

COSC 402: Software and Operations System Security - 3 Credits. *Prerequisite(s): COSC 330 or Consent of Instructor.* This course will examine security principles and practices important to operating systems and programming. Topics include OS security architecture; memory security; authentication, including account and password protection mechanisms; assessing OS vulnerabilities; programming security and attacks such as buffer overflow attacks and writing secure code; application interaction; module control; auditing host security, including operational logs; malicious logic including viruses and virus protection; and security applications.

COSC 410: Data Communications and Networks - 3 Credits. *Prerequisite(s): COSC214 and COSC 284.* This course explores the fundamentals of data communication and computer networking: common carrier implications, tariffs, exchanges, concentrators, multiplexors, and buffering; circuit, message, and packet switching; network architectures and protocols; protocol standards, modeling, and analysis; cost and design; software considerations are emphasized. (Formerly: COSC 485)

COSC 418: Principles of Computer Graphics - 3 Credits. *Prerequisite(s): COSC 214 or MATH 228.* This course introduces students to basic concepts and essential principles of Computer Graphics from programming perspective. It includes topics such as Geometric Modeling, Lighting/Shading, Subdivision of Curves and Surfaces, Mesh Parameterization, Texture Mapping, Morphing, and Animation. Students will use a standard Computer Graphics Library and develop simple algorithms of Computer Graphics to reinforce the concepts.

COSC 431: Database Management - 3 Credits. *Prerequisite(s): COSC 214.* This course is an introduction to concepts, design objectives, tools, and principles database management system software. Descriptors, structures, database system architectures, entities, relationships, and data models. The relational, network and hierarchical database models, normal forms, and canonical data structures will be studied as a basis for logical organization. Relational algebra and calculus, introduction to concurrency, and transaction management are studied.

COSC 465: Software Engineering - 3 Credits. *Prerequisite(s): COSC 214.* This course introduces the student to major topics in software engineering such as: requirements specification, analysis and design, testing, project management, and implementation. Additional topics such as software life cycle models, the Unified Modeling Language (UML), agile software development techniques, configuration management, change control and version control tools, object-oriented design, and project documentation will be discussed.

COSC 473: Artificial Intelligence - 3 Credits. *Prerequisite(s): or taken concurrently: COSC 113; or consent of instructor.* This course introduces students to Virtual Reality (VR) hardware and software. It provides an opportunity for them to apply this knowledge to applications for education and games. This course applies cutting-edge virtual reality technology currently available in academia and industry. Students will design, model, and script the VR environment by developing a complete VR application as a group project.

COSC 474: Machine Learning and Discovery - 3 Credits. *Prerequisite(s): COSC 214.* Artificial intelligence techniques for knowledge acquisition by computers. Fundamental problems in machine learning and discovery. Systems that learn from examples, analogies, and solved problems. Systems that discover numerical laws and qualitative relationships. Projects centering on implementation and evaluation.

COSC 476: Natural Language Processing - 3 Credits. *Prerequisite(s): COSC 474.* This course covers a broad range of topics in natural language processing. It is intended for students who are familiar with machine learning fundamentals. Topics include finite-state methods; context-free and extended context-free models of syntax, parsing and semantics interpretation; n-gram and Hidden Markov models; part-of-speech tagging; coreference resolution; discourse structure; and natural language applications such as machine translation, automatic summarization, sentiment analysis and question answering.

Course Descriptions Department of Fine & Performing Arts (Studio & VCDMA)

ART 101: 2D Design - 3 Credits. this course is a study of visual organization. Theories of spatial organization and designing in various materials will be studied.

ART 102: 3D Design - 3 Credits. this course is a study of visual organization. Theories of spatial organization and designing in various materials will be studied.

ART 110: Introduction to Drawing - 3 Credits. This course provides the fundamentals in the practice of drawing in various media, development of artistic discrimination, and drawing skills.

ART 111: Life Drawing - 3 Credits. This course is a study of the costumed and nude figure.

ART 310: Portrait & Figure Sculpture - 3 Credits. Armature construction and practical experience in creating basic forms in metal, clay, plaster, wood, and stone will be provided.

VCDM 215: Animation, Design Concepts and Principles - 3 Credits. An introductory course to cover an overview of the basics of animation and motion graphics, principles of animation, drawing for animation, character, scenic design, and storyboarding.

VCDM 220: Gaming, Animation & Entertainment Design I – 3 Credits. This course provides the foundations to interactivity, immersive technology, and visual approaches to using design tools to create animation, motion graphics, sound, film to produce a successful game, immersive, and/or interactive experience.

VCDM 267: History Of Game Design, Immersive Media And Entertainment Arts - 3 Credits. Prerequisite: ENGL 102. A course in the theory and critical overview of the history of the video gaming and game design industry, entertainment media, and immersive technology and its impact on society, business, and connections to popular culture.

VCDM 320: Video Gaming, Animation & Entertainment Design II - 3 Credits. Prerequisites VCDM 220. This advanced studio course will provide students with hands-on storytelling, conceptualization, design, and creation of visual, interactive, and immersive experiences for entertainment such as motion capture, game design, animation, motion graphics, and cinema production techniques.

VCDM 315: Conceptual Thinking in Drawing And Illustration

3 Credits. Prerequisite (s): ART 110 or 111. Through a series of illustration-based exercises and problems students will be helped to enhance creative and technical skills for communicating visual concepts. Students will learn the professional processes of collecting reference work, creating thumbnail sketches and rough drafts. Projects are designed to increase knowledge and understanding of compositional strategies, color theory, conceptualization and exploration of materials and techniques. Students will use prior experience in drawing, painting, graphic arts, digital media or art made from repurposed materials to develop strong and effective illustrations for the purpose of marketing, journalism or personal expression.

VCDM 360: Digital Cinematography I - 3 Credits. This course is a study of the principles of digital video/cinema including the use, operation, basic digital video editing, as well as the developing narratives and scripts for short video projects and exercises.

VCDM 361: Digital Cinematography II: Advanced Digital Editing & Compositing Techniques - 3 Credits. Prerequisite(s): Junior Standing, VCDM 360 formerly Cinematography II. This course is a continuation of ART 360. Emphasis is on special digital video and compositing techniques, as students will develop a short digital video project over the course of the semester.

VCDM 367: Design History - 3 Credits. Prerequisite(s): ENGL 102. The course will focus on the historical and technological developments in design over the 19th, 20th and current century. This course will look at how design has helped shape and communicate with society's values, and contributions in design and technological innovations.

VCDM 368: Animation, Game Design & Production I. - 3 Credits. Prerequisite(s): VCDM 320 & 496. Students work collaboratively to design, prototype and develop all phases of production of a final game, virtual, immersive entertainment product, and/or prototype for the senior capstone, portfolio.

VCDM 370: Screenwriting 3 Credits. Prerequisite(s): ENGL 102. An overview of screenwriting and provides VCDMA students and introduction to the basic principles of writing and developing narratives for film and television. The course will also provide a foundation in writing narratives for digital video/film production and provide students an understanding the screenplay format, editing and revision process as well as the basics of the business of screenwriting.

VCDM 378: Immersive Media Arts & Design 3 Credits. Prerequisite(s): VCDM 320. Students are provided techniques the best practices in design, art, and aesthetics for immersive, interactive experiences and production as well as XR, VR, AR technologies; and as they intersect with visual media and content creation.

VCDM 392: Motion Graphics - 3 Credits. Permission of instructor only. Advanced Standing and/or VCDM 340. This course provides an overview of industry-standard motion graphics tools and techniques, and provides training in advanced compositing techniques, animation, and modeling used in real-world studio situations.

Students are guided through 2D animation, visual effects, compositing, rendering, lighting, and setup for animation. Motion Graphics further covers 3D modeling for objects, environments, particle systems, materials, lighting, and 3D simulation.

VCDM 394: History Of Animation - 3 Credits. Prerequisite: ENGL 102. This course will explore the history of American animation from film to television. In addition to the major animation studios, the course will explore the role of minority and female animators. The influence of animation on media will be addressed from the aesthetic, technical, business, and cultural perspectives.

VCDM 395: Stop-Motion Animation - 3 Credits. This is a hands-on studio course that focuses of stop-motion and experimental animation, as well as the genres of replacement animation, pixilation, puppet, paper, cut-out, object animation, motion graphics and visual effects. The course emphasizes the principles of animation as it intersects film and digital media production, technology, and the television and film industry.

VCDM: 396 2d Digital Animation I - 3 Credits. This course is an introduction to animation using state-of-the-art software and hardware for motion graphics. It provides a study of animation principles as well as techniques in producing two dimensional digital animations.

VCDM 397: 2d Digital Animation II - 3 Credits. As a continuation of VCDM 396, this course allows students to develop skills in two-dimensional digital animation production, character animation, motion graphics, and advanced animation principles. Students will work on a variety of lessons throughout the semester and on an extended animated production.

VCDM 407: African American Cinema - 3 Credits. Prerequisite(s): Advanced standing; ENGL 213 or ENGL 250, and VCDM 360. This advanced course examines in depth the art, history, aesthetics, and cinematography of films produced by African Americans and women of color. This examination will focus on several elements, including

the filmmakers, directors, actors, production (studio produced vs. independent), technical and production elements, characterization, genre and film language.

VCDM 408: Visual Culture - 3 Credits. A visual study and critical discourse on the aesthetics of contemporary art and theory as it intersects with urban culture and artistic movements such as hip-hop. This course explores the aesthetics, philosophies, and foundations of hip-hop by focusing on musical, poetic (spoken word), and visual expressions rooted within the culture. Visual and performance artists who have been influenced by and who incorporate hip-hop into their work will also be studied. Students will also study the relationship between hip-hop to visual art, multimedia, video/film, as well as with other cultures, and the political, social, and historical movements in African American history.

VCDM 410: Hip-Hop Studio - 3 Credits. An interdisciplinary and advanced course that incorporates an innovative approach to combining workshop, lecture and studio into actual creative projects using hip-hop and the elements of MCing, DJing, Graffiti, B-Boy/B-Girl (Dance) and Knowledge as the catalyst for creative, collaborative research projects rooted within hip-hop and visual culture.

VCDM 450: Multimedia Workshop: Web Design & Digital Studio
- 3 Credits. Prerequisite(s): ALL: Junior Standing. This course is designed to give the student an opportunity to explore the creative possibilities in multimedia including interactive, web design, and presentation graphics media.

VCDM 451: Advanced Topics in Multimedia, Web Design, XHTML & CSS - 3 Credits. This course is a continuation of VCDM 450 Multimedia Workshop. This advanced course focuses on web design, hand-coding and scripting for web design, and specifically using XHTML, CSS, ActionScript and other technologies. Student will also research and produce examples of web design and/or interactive media and incorporate current trends and practices for both the internet and mobile devices.

VCDM 464: Special Topics: Virtual Production Studio - 3 Credits.
Permission Only. Advanced Standing. This advanced studio course will provide students hands-on storytelling, conceptualization, virtual design and the creation of immersive experiences for entertainment such as motion capture, advanced animation, motion graphics and digital cinema production techniques, including special and visual effects as well as other topics focusing on technology, culture and diversity.

VCDM 468: Game Design and Development Project II - 3 Credits. A continuation of VCDM 368. Students work collaboratively to complete production of a final game, entertainment product and/or prototype for senior capstone, portfolio.

VCDM 470: Self Promotion & Marketing in The Arts - 3 Credits.
Prerequisite(s): Junior/Senior Standing; Permission only. The course focuses on developing and expanding the students' use of technology components, skills and practices such as: the integration of video, print design and online media to create proper marketing materials to promote the student's future chosen careers in the visual and/or performing arts.

VCDM 491: Internship in Art & Visual Communication - 1 Credit.

Prerequisite(s): Junior/Senior Standing; Permission only and at least 24 credit hours (upper level) in area of concentration. This advanced internship and apprenticeship course is intended to help students in Art and VCDMA (computer graphics) make their way into the professional art, design/ multimedia, and visual communication world. The class serves as a bridge between students and professionals in the various art/design, industries, and students.

VCDM 496: 3D Animation and Modeling I - 3 Credits. this course is an overview of 3D computer animation & modeling. Through in-class lectures, assignments, and homework, you will be instructed on how to use 3D software for basic modeling, rendering, lighting, and setup for animation. Different methods of conceptualizing characters will be discussed and illustrated. There will also be instruction in using a bitmap-based paint and illustration application to create textures. The student will also learn some basic compositing techniques and computer simulation. The students will also be exposed to how the applications are used in real-world studio situations.

VCDM 497: 3D Animation and Modeling II - 3 Credits. this course is a continuation of VCDM 496 3D Modeling & Animation. Students are instructed and guided through advanced technique for modeling, rendering, rigging, lighting, and setup for animation. Advanced character, scene and object design as well as 3D simulation will also be covered. The course provides training in advanced compositing techniques, animation and modeling used in real-world studio situations

Additional DFPA, Communication & Other Supportive Courses

Music Technology

MUSC 230: Sound Design: Film, Animation & Game Design – 3 Credits. An introduction to the basic skills needed to produce high quality sound design for various forms of visual media and immersive experiences including animation, film and game design. The basic elements of sound design (Dialogue, Ambiences, Sound Effects, Foley, and Music) will be examined with practical assignments, class exercises, expert lectures, and peer feedback.

Theatre Arts

THEA 100: Acting (For Non-Majors) - 3 Credits. this course introduces students to the craft of acting on and off stage through theatre exercises, improvisations, and scene studies, as it develops an appreciation for acting as an art form.

THEA 441: Scene Design - 3 Credits. Prerequisite(s): Stagecraft, Lighting, Technical Production. Recommended: ART 101 Design, and ART 102-103 Drawing. Preparation of sketches based on the principal styles and periods in the theatre; balance,

composition, color, and unity of stage settings as applied to a script. Study and practice using various techniques and media stressing line, mass, color, lighting, and form.

Communications

COMM 220: Gaming Industry: Principles, Strategies and Fundamentals - 3 Credits. the focus of this course is to introduce students to the fundamental concepts of the gaming industry and provide historical, theoretical, and logical approaches to digital and visual gaming strategies. The students will learn various applications of streaming and digital communications technologies, the assessment of gaming audiences, the gaming industry, and an overview of game production. This course expands on gaming fundamentals, strategies, and game development with an emphasis on diversity and inclusion.

Business and Marketing

MGMT 101: Introduction To Business - 3 Credits. This is a survey course designed to acquaint students with the basic functional areas of business enterprises and covers terminology and functional issues facing managers. This course acquaints students with international aspects of business.

MKTG 231: Principles Of Marketing - 3 Credits this course is an introduction to the field of marketing and the issues of marketing management. Areas of study include consumer behavior, social responsibility of marketers, marketing of goods and services, industrial marketing, and logistics of distribution, pricing, product-planning and development, promotion, the selling function, and government regulations.

MKTG 341: Entertainment Marketing - 3 Credits Prerequisite MKTG 231. This is an introductory course which helps students develop a thorough understanding of the marketing concept and theories through various entertainment events. The areas this course covers include basic marketing, target marketing and segmentation, sponsorship, event marketing, promotions, sponsorship proposals, and entertainment marketing plans. This course also delves into the components of promotion plans, sponsorship proposals and the key elements needed in operating successful entertainment events.

Entrepreneurship Academy Courses

IDIS 110: Introduction To Entrepreneurship - 3 Credits Introduction to Entrepreneurship provides participants with the tools necessary for applying entrepreneurial thinking in their work and life. This course introduces participants to the fundamentals of entrepreneurship, providing them a blueprint for the ideas and strategies to build a successful venture.

IDIS 210: Problem Solving Using Design Thinking - 3 Credits this course provides an overview of design thinking to help students understand the concept as a problem-solving approach and an innovation tool. Design Thinking encompasses concept development, applied creativity, prototyping, and experimentation thinking, as it relates to understanding customers' needs.

Language, Literacy and Cultural Studies

ENGL 253: Studies In Popular Culture - 3 Credits Prerequisite: ENGL 102.

This course will examine and analyze popular culture and its representation in different media ranging from hip-hop music to sci-fi cinema. Specifically, the manifestations of pop culture in literature, film, television, music, and advertising will be assessed, as will the growing role of technology in the creation and understanding of culture. In addition, this course will assess the rhetorical situation of the examined texts and analyze those texts through the application of traditional rhetorical and literary methods.

ENGL 261: Gender, Culture, And Identity - 3 Credits this course is designed to introduce students to the basic concepts and perspectives in Women's Studies/Gender Studies. This course will place the category of gender and culture at the center of analysis it is an inter-disciplinary, transnational study of the significance of gender in shaping the cultural experience of communities and individuals.

ENGL 333: Graphic Novels - 3 Credits Prerequisite(s): ENGL 102. This course uses the analytic tools or literary theory and cultural studies to study the graphic novel and the way in which this medium creates narrative meaning through the dynamic interplay of images and words. Students will learn the history of graphic novels and read works created domestically and internationally with special attention given to image-text relationships, form, style, and the cultural identities of characters, artists and readers.

ENGL 361: Technical And Report Writing - 3 Credits Prerequisite: ENGL 102. This course is a study of the requirements of technical and report writing, coupled with a review and refinement of basic grammar and composition skills, designed to prepare students for career-related assignments using sophisticated software packages.



TOPIC: Salisbury University Proposal for Bachelor of Science degree in Coastal Engineering

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: Salisbury University proposes a Bachelor of Science (BS) in Coastal Engineering to address the pressing regional and global challenges posed by climate change, sea-level rise, and coastal erosion. Maryland's extensive coastline, especially the Chesapeake Bay and the Eastern Shore, underscores the state's need for trained coastal engineers to sustain critical ecosystems and economies. The program will be among the few coastal engineering undergraduate degrees in the U.S., making Salisbury University a regional leader in the field. Students will receive interdisciplinary training, combining engineering principles, environmental sciences, and practical applications like erosion management and sustainable infrastructure design. The curriculum prepares graduates for the Fundamentals of Engineering exam, advancing their employability.

With coastal engineering jobs projected to grow significantly, the program addresses an unmet demand in Maryland and the Mid-Atlantic. Partnerships with local engineering firms will provide internships and practical training, enhancing hands-on learning.

Launching in 2025, the program leverages existing resources and faculty expertise, requiring minimal initial investment. Salisbury University commits to scaling faculty and infrastructure as enrollment grows. This initiative aligns with the university's strategic goals of fostering academic success and promoting sustainability, ensuring graduates are equipped to tackle environmental and economic challenges.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the proposal from Salisbury University for a Bachelor of Science in Coastal Engineering.

COMMITTEE RECOMMENDATION:

DATE: December 3, 2024

BOARD ACTION:

DATE:

SUBMITTED BY: Alison M. Wrynn 301-445-1992

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Make Tomorrow Yours

Dr. Jay A. Perman Chancellor
University System of
Maryland 3300
Metzerott Rd.
Adelphi, MD 20783

Dear Chancellor Perman,

Salisbury University (SU) is requesting the University System of Maryland's approval to add a new academic program – Bachelor of Science in Coastal Engineering.

With Maryland's unique geographical position, extensive coastline, and critical need for climate resilience and environmental stewardship, this degree program is both timely and essential for addressing emerging regional and national challenges. SU is confident that this new degree will enhance our University's contributions to the state and the nation by training professionals ready to tackle the environmental and infrastructural challenges of today and tomorrow.

The complete proposal and supporting documentation for a new academic program is attached for your review.

If you have any questions, please contact my office at 410-543-6011.

Sincerely,

A handwritten signature in black ink that reads "Carolyn Lepre".

Dr. Carolyn Lepre
President

cc: Dr. Candace Caraco, Associate Vice Chancellor for Academic Affairs, USM

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

<u> X </u>	New Instructional Program
<u> </u>	Substantial Expansion/Major Modification
<u> </u>	Cooperative Degree Program
<u> X </u>	Within Existing Resources, or
<u> </u>	Requiring New Resources
<u> </u>	

Salisbury University

Institution Submitting Proposal

Coastal Engineering

Title of Proposed Program

Bachelor of Science

Award to be Offered

Fall 2025

Projected Implementation Date

09240

Proposed HEGIS Code

14.2401

Proposed CIP Code

Physics Department

Department in which program will be located

Jennifer Ellis

Department Contact

410-543-6630

Contact Phone Number

jeellis@salisbury.edu

Contact E-Mail Address



Signature of President or Designee

11/15/2024

Date

A. Centrality to Institutional Mission and Planning Priorities

1. Program Description

Maryland is blessed with thousands of miles of beautiful coastlines and wetlands that are essential to the economic health of the state. Central to this is the very heart of Maryland, the Chesapeake Bay, one of the most defining assets of the state. Its watershed spans more than 64,000 square miles and is fed by more than 150 rivers and waterways. The preservation of Maryland's environmental and economic future will be shaped by coastal engineers.

Coastal engineers contribute to the establishment of infrastructure and economic development, and design solutions for environmental protection, climate change adaptation, disaster preparedness, reclamation, and sustainability. Climate change has brought a host of weather-related challenges to coastal areas and beyond, including sea level rise, hurricanes, storm tides and high-wave events, erosion, and damage to harbors. These challenges impact the health and safety of residents, trade, recreation economies, and our delicate coastal ecosystem. Coastal engineers bring critical thinking, mathematic and scientific principles, and design and control methods to combat the negative impacts of such events.

Today's coastal engineers are trained to mitigate the impacts of storm tides through wind-wave forecasting and the design of wave transformation structures and practices. Their understanding of beach dynamics, levee and harbor design, dredging processes, and erosion control through the manipulation of living shorelines, structural, and non-structural means protects the population from natural disasters and keeps tourist economies well-functioning.

The field of coastal engineering is burgeoning. With only a few academic programs across the nation, the demand for coastal engineers is projected to grow faster than average. According to data from the National Association of Colleges and Employers (NACE), a degree in coastal engineering is highly employable, offering graduates numerous opportunities in coastal and engineering related career fields. The U.S. Bureau of Labor reports an expected 8% growth in demand in the next 10 years, and expects an average of 900 openings each year in government agencies (e.g., Army Corps of Engineers, NOAA), consulting, and private firms. Even greater growth is projected in regions vulnerable to coastal hazards, like the mid-Atlantic region. As referenced in Appendix D, engineering firms across the state confirm a dire need for coastal engineers in Maryland, especially on the Eastern Shore and Chesapeake Bay regions. Edmates projects that the greatest demand nationwide in the next 10 years will be related to environmental consulting and advocacy, stormwater management, green coastal research and development, coastal and estuarine restoration, coastal construction and monitoring of coastal structures, and climate resilient infrastructure – all workforce demands that have been confirmed by engineering firms in our state. Salaries are expected to vary by educational level, but in 2023 the median pay for new coastal engineers was \$100,270 at the bachelor's level. Ten-year projections suggest that salaries of \$150,000/year will be common among starting coastal engineers within a few years.

Expecting a significant increase in demand for college graduates capable of tackling the challenges surrounding coastal infrastructure and climate change, **Salisbury University** is proposing the formation of a Coastal Engineering degree (B.S.). This innovative degree would transition an existing track in physics to a standalone degree, one of only a few in the

country. Of the 66 institutions examined in the Maryland, Virginia, Delaware region, there are only four options for students interested in the topic, all of which are tracks situated within broader ocean engineering or civil engineering programs. This leaves a significant gap in the pipeline for technically trained professionals. While there are no existing bachelor degree options in the region, several coastal engineering graduate programs exist regionally and nationally.

Based on Maryland's extensive coastline, lack of existing programs, and opportunities for graduates, there is a compelling opportunity for SU to leverage its strengths in sustainability and geography while filling a need for this fast-growing field.

Salisbury University is perfectly positioned to lead Maryland's education of coastal engineers. Adjacent to both the Chesapeake Bay to the west, and Maryland's five inland bays to the east, the University is geographically poised to address the unique coastal challenges and opportunities of the state. With immediate access to incredibly diverse waterways, SU is able to provide hands-on educational opportunities to students.

This distinctive degree program provides a rigorous technical background and experience to enable graduates to swiftly enter emerging roles in consulting, local, state, and federal government, and cutting-edge research. The proposed Coastal Engineering B.S. curriculum includes foundational courses in mathematics, physics, and earth sciences, as well as specialized courses in coastal engineering. Situated within the Department of Physics, the program leverages the University's expansive expertise in geosciences, geographic information systems, physics, and engineering, while also drawing on the regional and geographic distinction of coastal Maryland.

The B.S. in Coastal Engineering provides students the fundamentals to adequately prepare for the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Engineering (FE) exam, which is a prerequisite for engineering licensure. Passing the FE exam prior to graduation can lead to more early-career opportunities for advancement, and helps differentiate engineering graduates from their peers. Once completed, records are kept by the Maryland Board of Professional Engineers and are valid across all states. Passing the FE exam allows a graduate to be listed in the Maryland Board of Professional Engineers database of Engineers-in-Training (EITs), which is searchable by companies seeking an entry level engineer. Passing the FE exam verifies the graduate's aptitude for advanced engineering work and eventual professional licensure. The B.S. in Coastal Engineering will be available to students beginning in August 2025.

2. How Proposed Program Supports Institution's Strategic Goals

The B.S. Coastal Engineering program aligns with two of Salisbury University's strategic plan goals:

Goal 1: Enrich Academic Success and Student Development; Objective 1.1 – Continue to support and develop our wide range of exceptional and challenging academic programs and experiences.

Coastal engineering is an inherently interdisciplinary and challenging field, encompassing elements of civil engineering, environmental science, oceanography, and climatology. By offering this program, SU will provide students with a unique academic path of rigorous coursework and practical applications like managing coastal erosion, designing resilient coastal infrastructure, and protecting natural habitats. Students will engage in real-world problem-solving and hands-on learning through labs, field studies, and internships, enriching their educational experiences and preparing them for impactful careers in a growing field.

Goal 5: Enhance Environmental, Social and Economic Sustainability; Objective 5.1 – Serve as a leader in our region in providing educational opportunities that enhance social, environmental and economic sustainability.

The coastal engineering program positions SU as a regional leader in environmental sustainability. Through coursework focused on sustainable coastal management, students will learn how to mitigate climate change impacts, address rising sea levels, and support sustainable development along Maryland’s coastlines. The program's emphasis on sustainable engineering practices aligns with the region's need for professionals who can balance ecological preservation with economic development. Graduates of this program are equipped to influence policies, design eco-friendly infrastructure, and contribute to sustainable regional growth, thereby enhancing both the environmental and economic resilience of our coastal communities.

By offering a coastal engineering degree, SU will support academic and professional growth for its students but also strengthen its role as a key contributor to environmental sustainability in Maryland and beyond.

While its administrative home will be in the Henson School of Science and Technology’s Physics Department, the program utilizes a multi-disciplinary approach allowing students to pursue “a broad array of ideas and perspectives” within the field of coastal engineering as promoted in the University’s mission. This approach will help students achieve excellence, envision their future as engineers, grow intellectually, and pursue career, leadership, and graduate school opportunities.

3. Brief Narrative Describing Adequate Financing of Program

The coastal engineering program incorporates mostly existing courses at SU and will use existing faculty and their expertise to launch the new undergraduate degree, with funding coming from tuition and course fees. As the B.S. Coastal Engineering program grows, new resources will be required for program’s success. As our first cohort of students near completion of the program, it is expected that two additional faculty members, each with expertise in coastal engineering, will be required; however, the program will monitor the rate of growth to determine if and when those positions are needed. SU’s faculty will largely be able to offer the courses as part of their regular teaching load; therefore, no additional administrative support or increased funding will be needed at the start of the program. Like all programs, students in coastal engineering will be supported by SU’s Academic Advising Center, which is

expected to manage the additional student load. If the program grows significantly, more advising support would be necessary, and faculty may advise advanced students.

As the program continues to grow, we may need additional field equipment and space to support hands-on laboratory experiences. With the completion of Blackwell Hall, we expect on-campus space to become available, reducing any potential limitations if further space is needed. The program also will utilize internships with local engineering firms to provide hands-on training for our students. These partnerships will not require resources; however, several firms have expressed that they may be able to provide paid internships in support of our students and program.

4. Commitment to Adequate Continued Support

The program is expected to attract a new set of students who are interested in coastal engineering and pursuing careers which require engineering licensure. The uniqueness of the program will draw students from across the state and beyond. SU is committed to providing additional administrative, financial, and technical support to match the increase in student demand, and advanced computing, equipment, and space needs will be provided in support of the program as needed.

The SU Libraries, the SU Math Emporium and Physics Help Desk will provide academic support for students in the program. The Physics Department has several labs for courses, as well as research space that can be used for students and faculty alike in the program.

The University has established administrative structures to support the program, as demonstrated by SU's thorough vetting and approval process involving the Program Director, Chair of the Department, Henson School Curriculum Committee, Undergraduate Curriculum Committee, Dean of the Henson School, and the Provost. We pledge to provide the appropriate support to enable all students enrolled in the program to complete their degree. The University has implemented a robust framework to ensure continued support for the academic program, including enhanced resources, dedicated mentorship, and regular feedback mechanisms.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan

1 and 2. Demonstrate Demand and Need for the Program and Consistency with the Maryland State Plan for Postsecondary Education

Coastal engineering is a fast-growing field that responds to critical economic and environmental demands facing our society. In alignment with the State Plan for Postsecondary Education, this program is responsive to the changing needs of the workforce and promotes innovation as it prepares our students to become leaders addressing environmental challenges of the coming years. Locally, the Maryland Coastal Bays watershed alone contributes more than \$1.2 billion in annual economic activity and more than 50,000 jobs each year. Coastal tourism at Maryland's beaches is thought to have a total economic impact of more than \$30.3 billion annually for the state. Even more significant is the economic driver of the Chesapeake

Bay. A 2014 study from the Chesapeake Bay Foundation attributes \$107 billion in economic impact is created by the Chesapeake Bay, with billions of dollars more that could be gained or lost depending on the health and sustainment of our watershed,

To protect these critical resources for the future of Maryland, and with the Maryland Transportation Authority considering the replacement of the Chesapeake Bay Bridge with two new and wider bridges, a steady supply of well-trained coastal engineers will be an absolute requirement. SU's coastal engineering program demonstrates further alignment with the State Plan, which sets a goals of connecting Marylanders to jobs, creating a competitive economy, and making Maryland the greenest state in the country.

The Eastern Shore of Maryland, in particular, with its extensive coastline and vulnerable ecosystems, is in urgent need of skilled professionals to address challenges such as erosion, sea-level rise, and increased storm intensity. As of the date of this proposal, there are numerous coastal engineering job opportunities available: 142 on LinkedIn, 413 on ZipRecruiter, 78 on Indeed, 344 on SimplyHired, and 83 on Glassdoor. This underscores the growing demand for expertise in this field and highlights the necessity of a robust coastal engineering program to prepare students for these roles.

The State expects its postsecondary institutions to “update academic programs to meet industry needs and ensure a quality workforce,” as indicated in Goal #1, Priority #5 of the 2022 Maryland State Plan for Higher Education. The B.S. Coastal Engineering degree will advance this goal by providing a unique high-quality program that meets “occupational and professional needs relative to upgrading vocational/technical skills or meeting job market requirements.” As previously reference, several firms on the Eastern Shore and beyond have documented this need and expressed their support for the program (see Appendix D). The program prepares students to be effective engineers who can be competitive in an area of expanding demand.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State

Data USA and a recent report by the National Academies Press ([1 National Importance of Coastal Engineering | Meeting Research and Education Needs in Coastal Engineering | The National Academies Press](#)) estimates that there are fewer than 200 bachelor's level graduates in coastal or ocean engineering each year.

According to the Maryland Department of Labor and the U.S. Bureau of Labor Statistics occupational projections, growth in jobs closely related to coastal engineering is expected to rise considerably at both the state and national level by 2033.

Maryland Department of Labor: Maryland Long Term Occupational Projections (2022-2032)		
Title	Projected Change	Projected Annual Openings
Environmental Engineer	10.7%	693
Environmental Science & Protection	10.8%	832
Environmental Scientists & Specialist	11.9%	2,591
Marine Engineering & Naval Architecture	3%	446
Urban & Regional Planners	9%	871

U.S. Bureau of Labor Statistics: Occupational Outlook Handbook (2023-2033)		
Title	Projected Change	Projected Annual Openings
Environmental Engineer	7%	44,200
Environmental Science & Protection	7%	36,300
Environmental Scientists & Specialist	7%	90,700
Marine Engineering & Naval Architecture	8%	10,900
Urban & Regional Planners	4%	47,200

In Maryland and beyond, there is a general shortage of engineers, and coastal engineers (who are trained in basic engineering principles as well as coastal-specific applications), can fill jobs outside of the coastal engineering demand, as well. Upon graduation, a student with this major will be able to apply for both entry-level engineer or coastal engineering positions. Approximately 40% of the jobs listed seeking “engineering” ask for a bachelor’s degree as a requirement. The remaining 60% generally require an advanced degree or “a bachelor’s degree plus equivalent work experience.” There is also significant overlap between coastal engineering and military occupational classifications. According to the U.S. Bureau of Labor Statistics, marine/coastal engineering is a skillset of 35 military titles.

D. Reasonableness of program duplication

We find no evidence of program duplication at the state or regional level. Salisbury University is one of only two USM institutions that serve the residents of the Eastern Shore of Maryland and the other, the University of Maryland Eastern Shore, does not offer an undergraduate degree in coastal engineering. Additionally, coastal engineering is not a degree title shared by any institution of higher education, public or private, in the State of Maryland. The CIP Code tied to this proposal (14.2401) for “Ocean Engineering” is also not a code used by any institution of higher education, public or private, in the State of Maryland.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

There are no HBIs in Maryland that offer an undergraduate degree in coastal engineering, or use the same CIP Code as this proposal. As such, while Salisbury University believes this is a

high-demand program for the State of Maryland and its workforce needs, it does not believe coastal engineering is a high-demand program for HBIs specifically. In cases where HBIs in the state are offering engineering programs, they have focused on mechanical, aerospace, or general civil engineering specialties. None have specific coursework in coastal, ocean, or maritime engineering, the closest to our proposed program.

F. Relevance to the identity of Historically Black Institutions (HBIs)

There are no HBIs in Maryland that offer an undergraduate degree in coastal engineering, or use the same CIP Code as this proposal, which suggests there is not a clear, unique relevance of this program to the identity of our state's HBIs. Additionally, there are not any HBIs in neighboring states across the mid-Atlantic with an undergraduate program in coastal engineering, further suggesting the program does not have particular significant relevance to the identity of HBIs beyond the State of Maryland.

G. Adequacy of curriculum design and delivery to related learning outcomes

1. How the Proposed Program was Established; Faculty Oversight

A full course listing with course titles and descriptions is provided in Appendix A. These courses were chosen by the faculty in the Department of Physics to address stated needs of industry partners in coastal engineering. The unique design of this program combines a breadth of knowledge developed from a group of fundamental and specialized coastal engineering courses combined with courses in mathematics, physics, and other science disciplines. By integrating the specific science disciplines, students in the program will better develop an array of critical thinking, communication, and leadership aptitudes that are broadly applicable in a rapidly changing technological environment and interdependent society.

The Coastal Engineering program will be housed in the Henson School of Science and Technology's Physics Department and will generally be managed by the Physics Department's Engineering Coordinator. The chairs of departments with course offerings in the coastal engineering curriculum will be consulted as necessary: Dr. Matthew Bailey, Physics; Dr. Stephen Habay, Chemistry; Dr. Veera Holdai, Mathematics; Dr. Dan Harris, Geography and Geosciences. The B.S. Coastal Engineering program requires 43 credits of general education courses, 15 of which are fulfilled in the core courses, 59 credits of engineering core courses, 27 credits of required major courses, and 6 credits of electives.

2. Educational Objectives and Learning Outcomes

The B.S. Coastal Engineering program follows a student-centered learning approach that is the hallmark of Salisbury University and focuses on principles, models and techniques that engineers use to perform their jobs effectively and support a broad array of applications.

Program objectives for graduates of the B.S. in Coastal Engineering are: 1) demonstrate the knowledge and skills central to the field of coastal engineering; 2) use formal techniques and methodologies of abstraction to create methods to solve real-world problems; 3) apply

acquired knowledge to cross-disciplinary problems as part of a project team; and 4) effectively and competitively pursue careers to meet the growing demand for engineers.

3. Assessment and Documentation of Student Learning Outcomes

Course- and program-level outcomes will be reviewed annually for effectiveness using objective criteria. SU's University Analysis, Reporting and Assessment (UARA) provides official student data and facilitates the collection and presentation of data for Academic Program Reports (APR) on a seven-year cycle. These APRs formalize the assessment of student learning outcomes to drive programmatic decision-making. At the end of each academic year, the program will assess the extent to which learning outcomes are achieved by each student in the program.

Modifications to classes or other adjustments may be made in response to areas where learning outcomes are not consistently achieved.

4. List of Courses with Credit Hours and Course Descriptions

Summary of Overall Credits to Degree

General education (not fulfilled by major) – 28

credits Engineering core – 59 credits

Coastal Engineering Major – 27 credits

Electives – 6 credits

Curriculum:

Engineering Core Courses

(Required courses include the following - see Appendix A for course descriptions).

CHEM 121 – General Chemistry I (4)

ENGR 100 – Introduction to Engineering Design (3) ENGR 110 – Statics (3)

ENGR 220 – Mechanics of Materials (3) ENGR 221 – Dynamics (3)

ENGR 232 – Thermodynamics (3)

ENGR 331 – Fluid Mechanics (3)

ENGR 480 – Fundamentals of Engineering Review (2)

ENGR 490 – Research in Engineering (3)

MATH 201 – Calculus I (4)

MATH 202 – Calculus II (4)

MATH 310 – Calculus III (4)

MATH 306 – Linear Algebra (4)

MATH 311 – Differential Equations I (4)

PHYS 221 – Physics I (4)

PHYS 223 – Physics II (4)

PHYS 225 – Physics III (3)

PHYS 470 – Senior Seminar (1)

Coastal Engineering Major Courses

(Required courses include the following - see Appendix A for course descriptions).

ENGR 306 – Introduction to MATLAB (1)
ENGR 411 – Introduction to Coastal Engineering (3)
ENGR 412 – Coastal Structures and Beach Nourishment (3)
ENGR 413 – Coastal Renewable Energies (3)
ENGR 414 – Field Methods and Coastal Modeling (3)
GEOG 111 – Introduction to Oceans and Coasts (3)
GEOG 311 – Coastal Processes (3)
GEOL 103 – Introduction to Physical Geology (4)
GEOL 211 – Sediment Analysis (1)
GEOL 322 – Geological Oceanography (3)

Total Credits (Core + Major) _____ 86 credit hours

General Education Courses

SU Signature Outcomes: Must complete at least 3 credits in each of the following areas:

- Civic and Community Engagement
- Diversity and Inclusion
- Environmental Sustainability

First Year Seminar: Academic preparation, skills and expectations for educational and professional success through exploration of a topic or issue. SLOs: Critical Thinking and Reasoning, Effective Reading, Information Literacy, Oral Communication, Written Communication, Intellectual Curiosity

Communicating Through Writing: Effective reading, writing, and information usage. SLOs: Effective Reading, Information Literacy, Written Communication

Quantitative Analysis: Numerical, analytical, statistical, and problem-solving skills. Fulfilled by Major SLOs: Quantitative Reasoning

Human Expression: Exploration of the different ways individuals and societies have and continue to express themselves and communicate the human experience. SLOs: Knowledge of Human Experience, Intellectual Curiosity, Ethical Reasoning

Humanity in Context: Critical and comparative analysis of humanity, emphasizing the role of history, culture, and/or language in human issues. SLOs: Critical Thinking and Reasoning, Understanding the Human World, Effective Reading, Knowledge of Human Experience, Intercultural Competence

Social Configurations: Quantitative and/or qualitative analysis of human behavior and/or societies. SLOs: Understanding the Human World, Knowledge of Human Experience, Emerging and Enduring Global Issues, Intercultural Competence

Social Issues: Applied social science, with an emphasis on understanding and solving problems in the social or behavioral sciences. SLOs: Quantitative Reasoning, Knowledge of Human Experience, Emerging and Enduring Global Issues, Ethical Reasoning

Hands-on Science: Experiential laboratory-based science. Fulfilled by Major SLOs: Quantitative Reasoning, Scientific Reasoning, Knowledge of the Physical World

Solutions Through Science: Applied science, with an emphasis on understanding and solving problems in the natural, physical, and technological sciences (may or may not include a lab). Fulfilled by Major SLOs: Critical Thinking & Reasoning, Quantitative Reasoning, Scientific Reasoning

Personal Wellness: Interconnected dimensions of wellness, including physical, emotional, and financial, to live a healthy, successful life. SLOs: Personal Health and Wellness

Experiential Learning: Apply knowledge and competencies from General Education through internship, study abroad/away, research, senior project, or other relevant experience. Fulfilled by Major SLOs: Critical Thinking and Reasoning, Information Literacy, Oral Communication, Written Communication, Ethical Reasoning, Intellectual Curiosity

Total Credits _____ 43 credit hours

5. Specialized accreditation or graduate certification requirements

There are no specialized accreditation or graduate certification requirements for this program. However, it is possible to seek accreditation from ABET once the first cohort of students successfully completes the program. We plan to seek this accreditation in the future.

6. Contracting with another institution or non-collegiate organization

There are no contracts with other institutions or organizations. Once the program is established, we plan to explore preferred pathway MOUs to graduate programs with institutions that have coastal or civil engineering master's or doctoral programs.

7. Assurance that SU provides clear, complete and timely information to students

Salisbury University, the Henson School, and the Physics Department are committed to and will provide clear, complete and timely information pertinent to all coastal engineering students through official communication channels. Upon approval, the program's academic requirements are clearly articulated on designated program pages that are located with the

university's catalog. Each undergraduate program provides students with a Curriculum Guide, a suggested 4-year course of study that is easily accessible within the program page (see Appendix B). Students will have access to degree audits that are located in their student portal within Peoplesoft. Additionally, students will have access to professional academic advisors who will support the student in academic support.

Each course offered within the program will provide the student with a syllabus that outlines the expectations for faculty/student interaction, technical equipment requirements, and the learning management system. In addition, approval of the program will be communicated in a timely manner to the appropriate offices on campus. Information regarding financial aid resources and cost of payments policies are clearly communicated on the Accounts Receivable & Cashiers Office and Office of Financial Aid & Scholarships' webpages.

The Academic Advising Center prepares all advisors to assist incoming students with all academic programs; furthermore, the Academic Advising Center dedicates one of their advisors as a liaison to the Department of Physics, the home of the proposed degree. Our catalog and website make available all pertinent information to prospective and current students regarding academic and student support, SU's learning management system, financial aid resources and costs and payment policies.

Before any program opens for admission, SU updates all curricular, course and degree requirements in our catalog and online (in both narrative and checklist formats). The Academic Advising Center prepares all advisors to assist incoming students with all academic programs; furthermore, the Academic Advising Center dedicates one of their advisors as a liaison to the Department of Physics, the home of the proposed degree. Our catalog and website make available all pertinent information to prospective and current students regarding academic and student support, SU's learning management system, financial aid resources and costs and payment policies.

8. Assurance that advertising, recruiting and admission material are clear and accurate

All publications, including marketing, catalog and website admissions pages are vetted by the Marketing and Communications Department at SU, which fact-checks all submissions. Digital marketing, which will be a main strategy for marketing this program, also will rely on the presentation of facts and stories that are concise and accurate.

H. Adequacy of Articulation

Once the new program in coastal engineering is approved, Salisbury University will move forward with the execution of an articulation agreement (See Appendix C).

I. Adequacy of Faculty Resources as outlined in COMAR 13B.02.03.11.

1. Narrative of Faculty Demonstrating Quality of Program Faculty

The science, mathematics, and engineering courses will be taught by SU's faculty from the Henson School of Science and Technology. Collectively, these faculty have decades of experience teaching undergraduates.

Table of Faculty Resources. (note: all faculty are regular state employees, not contractual)

	Faculty Member	Terminal Degree	Field	Degree-granting Institution	Academic Rank	Full-or Part - Time	Courses overseen
Chemistry	Stephen Habay	Ph.D.	Chemistry	Univ of Pittsburgh	Professor and Chair of Chemistry	FT	CHEM 121
Geography and Geosciences	Daniel Harris	Ph.D.	Geoscience Education	Univ of Maryland College Park	Associate Professor and Chair of Geography/ Geosciences	FT	All GEOG and GEOL courses
Mathematics	Veera Holdai	Ph.D.	Mathematics and Statistics	Wayne State Univ	Professor and Chair of Mathematics	FT	All MATH courses
Physics	Matthew Bailey	Ph.D.	Physics	Utah State Univ	Associate Professor and Chair of Physics	FT	All ENGR and PHYS courses
Physics	Mark W. Muller	Ph.D.	Mechanical Engineering (Grad. Cert. Coastal Engineering)	Univ of Hawai'i (Old Dominion Univ)	Professor	FT	Program Coordinator

- 2. Demonstrate Pedagogical Training for Faculty

The [Center for the Advancement of Faculty Excellence](#) (CAFE) supports faculty in the areas of teaching, research, professional development and personal wellness and the office of [Instructional Design & Delivery](#) (ID&D) provides professional development for effective pedagogical practices and instructional support for faculty engaged in teaching and learning of online, hybrid and traditional courses. Collaboratively, these offices provide various webinars, workshops, faculty learning communities and initiatives around andragogical and pedagogical best practices (such as Universal Design for Learning; Diversity, Equity & Inclusion; High Impact Practices; Problem-Based Learning; Open Pedagogy, Open Educational Resources, etc.). Additional opportunities are provided through the Faculty Development Committee and our Faculty Learning Communities such as the Distance Education FLC and the Scholarship of Teaching and Learning FLC. Finally, the institution hosts two annual faculty development events – one in August at the beginning of the semester (our most recent focused on Effective Teaching Strategies) and a Teaching & Learning conference in the Spring where faculty present on evidence-based practices and their experiences at SU. ID&D provides support for the campus learning management system (Canvas) and other instructional software (such as lecture capture, audience response systems) through workshops, video tips, and how-to instructions

J. Adequacy of Library Resources as outlined in COMAR 13B.02.03.12.

Salisbury University Libraries have existing resources to support the new Coastal Engineering major. In relation to journal and newspaper articles, SU has a number of relevant titles through electronic access via our online database subscriptions, including (but not limited to): Academic Search Complete; Business Source Premier; EconLit; JSTOR; ProQuest Newspapers; Science Direct; and Web of Science. In regard to monographic titles, SU has a significant number of titles that would support this major and is frequently adding more. In regard to monographic titles, SU has a significant number of titles that would support this major and is frequently adding more. SU's online catalog provides direct access and borrowing privileges to approximately eleven million items in the libraries of the University System of Maryland and Affiliated Institution libraries (USMAI). In sum, no new library resources are directly required to support the new program. Active and ongoing communication from faculty teaching these courses regarding relevant resources is strongly recommended, with particular emphasis placed on areas of curricular focus along with information regarding newly released titles. In sum, no new library resources are directly required to support the Coastal Engineering major.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Resources as outlined in COMAR 13B.02.03.13.

Currently, SU can deliver the program in our existing space and with the current equipment resources. We anticipate approximately 8 students will enroll in the program in its first year, 10 new students in Year 2, and 15 new students a year going forward, yielding a total program headcount at maturity of about 45 students, with about 9 graduates per year. We predict an 82% first year retention rate,

equivalent to the industry average for engineering programs. At that rate of growth, we would need additional adjunct/contractual teaching support in Years 2 and 3 and then 1 additional professor in Year 4 to handle the volume of students. This will allow SU to maintain the ratio of about 30 students per full-time faculty member. SU is committed to upgrading facilities and equipment when the program has established its intended growth.

SU has an institutional electronic mailing system. All students and faculty are given an SU email to utilize for all university correspondence. The university's IT HelpDesk provides technical support to students who need assistance accessing e-mail.

Instructional Design & Delivery provides support for the campus supported learning management system (Canvas) and other instructional software (such as lecture capture, audience response system) through various methods (e.g. workshops, video tips, how-to instructions).

Salisbury University's Department of Physics and Department of Geography and Geosciences have adequate laboratory facilities to support the new program. This includes wet and dry labs on the 1st and 3rd floor of Henson Science Hall, a coastal processes and geology research lab in the basement of Devilbiss Hall, and field experience launch spaces at the Nanticoke River Center.

L. Adequacy of Financial Resources as outlined in COMAR 13B.02.03.14.

TABLE 1: RESOURCES for the Coastal Engineering B.S. at Salisbury University					
Resources Categories	(Year 1 - FY25)	(Year 2 - FY26)	(Year 3 - FY27)	(Year 4 - FY28)	(Year 5 - FY29)
1.Reallocated Funds	\$0	\$0	\$0	\$0	\$0
2. Tuition/Fee Revenue (c+g below)	\$85,104	\$184,467	\$317,062	\$447,567	\$514,100
a. #F.T. Students	8	17	28	39	44
b. Annual Tuition/Fee Rate (FY23 Resident rate)*	\$10,638	\$10,851	\$11,068	\$11,289	\$11,515
c. Annual Full Time Revenue (a x b)	\$85,104	\$184,467	\$309,904	\$440,271	\$506,660
d. # Part Time Students	0	0	1	1	1
e. Credit Hour Rate*	\$430	\$439	\$447	\$456	\$465
f. Annual Credit Hours	16	16	16	16	16
g. Total Part Time Revenue (d x e x f)	\$0	\$0	\$7,158	\$7,296	\$7,440
3. Grants, Contracts, & Other External Sources	\$0	\$0	\$0	\$0	\$0
4. Other Sources	\$0	\$0	\$0	\$0	\$0
TOTAL (Add 1 - 4)	\$85,104	\$184,467	\$317,062	\$447,567	\$514,100

*Figured with a 2% Annual Increase

TABLE 2: EXPENDITURES – for the Coastal Engineering B.S. at Salisbury University

Expenditure Categories	(Year 1 - FY25)	(Year 2 - FY26)	(Year 3 - FY27)	(Year 4 - FY28)	(Year 5 - FY29)
1. Total Faculty Expenses (b + c below)	\$34,949	\$75,753	\$135,193	\$188,893	\$216,315
a. # FTE	0.2	0.5	0.9	1.2	1.4
b. Total Salary (plus 2% increase each year)	\$26,278	\$56,957	\$101,649	\$142,025	\$162,643
c. Total Benefits (33% of salary)	\$8,672	\$18,796	\$33,544	\$46,868	\$53,672
2. Total Administrative Staff Expenses (b + c below)	\$19,950	\$20,349	\$20,756	\$21,171	\$21,595
a. # FTE	0.125	0.125	0.125	0.125	0.125
b. Total Salary	\$15,000	\$15,300	\$15,606	\$15,918	\$16,236
c. Total Benefits	\$4,950	\$5,049	\$5,150	\$5,253	\$5,358
3. Total Support Staff Expenses (b + c below)	\$3,192	\$6,919	\$12,038	\$16,937	\$19,435
a. # FTE	0.05	0.11	0.19	0.27	0.30
b. Total Salary	\$2,400	\$5,202	\$9,051	\$12,734	\$14,613
c. Total Benefits	\$792	\$1,717	\$2,987	\$4,202	\$4,822
4. Equipment	\$0	\$80,000	\$0	\$0	\$0
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$0	\$0	\$0	\$0	\$0
TOTAL (Add 1 - 7)	\$58,091	\$183,021	\$167,987	\$227,001	\$257,345

M. Adequacy of provisions for evaluation of program as outlined in COMAR 13B.02.03.15.

The Henson School of Science and Technology has a long tradition of assessment and accreditation. Within the Henson School's Departments of Mathematics and Computer Science, Biological Sciences, Geography and Geosciences, Chemistry, and Physics, all faculty members are evaluated every year by their department chairs and degree programs undergo comprehensive review every 7 years. With guidance from the SU's Office of University Analysis, Reporting, and Assessment, course and program-based assessments are being developed at the start. Thus, the curriculum, program faculty and other resources, and student learning outcomes will be routinely evaluated through the annual and periodic review assessment cycles. In addition, once the B.S. Coastal Engineering program is launched, the program and courses will be evaluated using student surveys and program committee reviews on a regular basis. The program plans to see ABET accreditation after its initial launch which will require continuous assessment and evaluation.

N. Consistency with the State's minority student achievement goals as outlined in COMAR 13B.02.03.05 and in the State Plan for Postsecondary Education.

Any student meeting the SU admissions requirements can choose to pursue the B.S. in Coastal Engineering. The program will work to help all accepted students improve their workplace competitiveness and reach their professional goals; an aim consistent with the State's minority student achievement goals. In support of this goal, SU focuses campus efforts to promote inclusion, diversity, opportunity, and equity, and the cultivation of a sense of belonging. Recruiting a more racially diverse class, both at the undergraduate and graduate levels, is important for SU's student body to better represent the population within Maryland. We plan to measure our progress toward these goals through enrollment and retention analyses for matriculated students.

More specifically, Priority 6 of the 2022 Maryland State Plan for Higher Education calls on universities to improve systems that prevent timely completion of an academic program. We have already positively communicated with several Maryland community colleges about the potential for developing articulation agreements between their pre-engineering transfer programs and our B.S. Coastal Engineering program. In fact, the agreement already in place with Wor-Wic Community College will form the base document upon which these agreements can be drawn up quite quickly. Guided and facilitated by the Transfer with Success Act, these articulation agreements will certainly improve student degree completion for minority students and majority students alike.

O. Relationship to low productivity programs identified by the Commission:

The proposed program is not directly related to an identified low productivity program.

P. Adequacy of Distance Education Programs as outlined in COMAR 13B.02.03.22:

No distance learning is proposed at this time.

Appendix A

B.S. Coastal Engineering - Salisbury University Course Descriptions

Major Courses

CHEM 121 - GENERAL CHEMISTRY I (4 credit hours)

Study of fundamental laws of chemistry and atomic structure emphasizing quantitative relationships. Prerequisite: Two years high school algebra and chemistry, or CHEM 100. Three hours lecture, one three-hour laboratory per week. Prerequisites: This course assumes an understanding of high school chemistry and algebra.

ENGR 100 - INTRODUCTION TO ENGINEERING DESIGN (3 credit hours)

Introduction to the art and science of engineering design. Students work in teams to design, manufacture, assemble and test a product. Examples of products include a postal scale, solar cooker and human-powered water pumping systems. CAD and modeling software will also be used.

Four hours lecture/ activity per week. Pre or Corequisites ENGL 103 and either PHYS 121 or PHYS 221.

ENGR 110 - STATICS (3 credit hours)

The equilibrium of stationary bodies under the influence of various kinds of forces. Forces, moments, couples, equilibrium, trusses, frames and machines, centroids, moment of inertia, beams and friction. Vector and scalar methods used to solve problems. Prerequisite: PHYS 221. Prerequisite/Corequisite: MATH 202. Three hours per week.

ENGR 220 - MECHANICS OF MATERIALS (3 credit hours)

Study stress and deformation of beams, shafts, columns, tanks and other structural, machine and vehicle members. Topics include stress transformation using Mohr's circle, centroids and moments of inertia, shear and bending moment diagrams, derivation of elastic curves, and Euler's buckling formula. Complete design project related to the material.

Three hours per week. Prerequisites: ENGR 110, MATH 202.

ENGR 221 – DYNAMICS (3 credit hours)

Systems of heavy particles and rigid bodies at rest and in motion. Force acceleration, work energy and impulse momentum relationships. Motion of one body relative to another in a plane and in space.

Three hours per week. Prerequisites: ENGR 110, MATH 202.

ENGR 232 – THERMODYNAMICS (3 credit hours)

Introduction to the principles of thermodynamics and thermodynamic properties of matter. Topics include the first and second laws of thermodynamics, heat, work, temperature, entropy, enthalpy, cycles, reactions, mixtures, energy balances, and mass balances. A design project related to the material is given.

Three hours per week. Prerequisites: C or better in ENGR 110, MATH 202, PHYS 225.

ENGR 306 - INTRODUCTION TO MATLAB (1 credit hour)

Prepares physics and engineering students for subsequent courses requiring computation with MATLAB. Covers the basics of MATLAB, including simple commands, variables, solving equations, graphing differentiation and integration, matrices and vectors, functions, M-files and fundamentals of programming in the MATLAB environment.

One hour per week. Prerequisites: C or better in MATH 202.

ENGR 331 - FLUID MECHANICS (3 credit hours)

Introduction to the principles of fluid mechanics. Topics include mass, momentum and energy conservation, hydrostatics, control volume analysis, internal and external flow, boundary layers, and modern measurement techniques. A design project related to the material is given.

Four hours lecture/activity per week. Prerequisites: C or better in ENGR 221, MATH 310 and PHYS 225.

ENGR 411 - INTRODUCTION TO COASTAL ENGINEERING (3 credit hours)

Topics include the physical and mathematical fundamentals of ocean wave behavior; mechanics of wave motion; wave refraction, diffraction and reflection; wave forecasting; shore processes; planning of coastal engineering projects; design of seawalls, breakwaters, beach nourishment, and fixed and floating installations; dredging; sea-level rise; coastal transport processes; and risk analysis. Three hours per week. Prerequisites: C or better in GEOG 311, PHYS 225.

ENGR 412 – COASTAL STRUCTURES AND BEACH NOURISHMENT (3 credit hours)

This course examines the elements of beach nourishment and coastal structures including cross-shore and planform design considerations. Topics include dredging, borrow areas (upland, offshore and inlets), environmental and recreational effects of beach nourishment. Students will learn about the functional design of coastal structures distinguishing between groins, jetties, seawalls, breakwaters, revetments and bulkheads.

Sediment and structural stability as a result of breaking and non-breaking wave loading are also covered. Three hours per week. Prerequisites: ENGR 411

ENGR 413 – COASTAL RENEWABLE ENERGIES (3 credit hours)

This course examines power generation from ocean waves, currents, tides, and temperature changes in coastal environments. Topics include an emphasis on the principles of operation, efficiency, environmental impact and performance of coastal renewable energy sources from an electrical engineering and thermodynamic perspective. Environmental impacts and technological limitations are also discussed.

Three hours per week. Prerequisites: ENGR 232, ENGR 411, and PHYS 311.

ENGR 414 – FIELD METHODS AND COASTAL MODELING (3 credit hours)

Introduction to the concepts, instrumentation, and field methods used to observe and computationally model physical processes specific to the highly dynamic coastal environment, such as wind, waves, currents, tides, and sediment transport. Advanced surveying techniques for monitoring beach morphology (e.g., LIDAR, RTK, GPS, and SONAR) and advanced numerical models (e.g. ADCIRC, FUNWAVE, DELFT3D, XBeach, and ANSYS) are introduced.

Three hours per week. Prerequisites: ENGR 411

ENGR 480 - FUNDAMENTALS OF ENGINEERING REVIEW (2 credit hours)

Review of topics on the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Engineering (FE) exam. Students become familiar with exam topics and get hands-on problem-solving skills. All topics for the “Other Disciplines” exam specification are covered.

Two hours per week. Prerequisites: Permission of instructor.

ENGR 490 - RESEARCH IN ENGINEERING (2 credit hours)

Research project in engineering chosen, designed and carried out by student with the advice and approval of a faculty member. Actual work may be carried out at off-campus sites. Written report, seminar presentation required. Prerequisites: PHYS 470, 40 credits of physics/engineering (or senior standing), department chair approval. Six hours per week.

GEOG 111 - INTRODUCTION TO OCEANS AND COASTS (3 credit hours)

The study of coastlines, coastal landforms, and the tectonic and oceanographic forces that shape them. One mandatory Saturday half-day field trip to Assateague Island is required.

Three hours per week.

GEOG 311 - COASTAL PROCESSES (3 credit hours)

Introduces more advanced concepts related to coastal dynamics, with an emphasis on real-world practical applications. Learn how to gather field data and compile it into professional reports. Two mandatory Saturday half-day field trips are required. Two hours lecture, two hours lab per week. Prerequisites: GEOG 111. Pre or Corequisites: GEOL 211

GEOL 103 - INTRODUCTION TO PHYSICAL GEOLOGY (4 credit hours)

Introduction to the nature and character of the Earth's crust and the geological processes that generate and shape landform features. Topics include minerals, rocks, earth structure and plate tectonics, geological processes and associated landforms. Three hours lecture, two hours laboratory per week.

GEOL 211 - SEDIMENT ANALYSIS (1 credit hour)

Lab-based course designed to introduce students to the most common methodologies field scientists use to measure, analyze and classify sediments. Two hours laboratory per week. Pre or Corequisites: GEOL 103 or permission of instructor.

GEOL 322 - GEOLOGICAL OCEANOGRAPHY (3 credit hours)

Explore the major features of the ocean basins and seafloor as well as the processes responsible for their formation. Discuss geological and geophysical techniques for mapping and understanding these processes. Three hours per week. Prerequisites: GEOG 111.

MATH 201: CALCULUS I (4 credit hours)

Introduction to analytic geometry, limits, continuity, derivatives of elementary functions, applications of the derivatives. May not receive credit for both MATH 198 and MATH 201. Prerequisite: MATH 140 or equivalent. Four hours per week.

MATH 202 - CALCULUS II (4 credit hours)

Introduction to integrals, infinite series, applications and techniques of integration. Four hours per week. Prerequisites: C or better in MATH 198 or MATH 201 or equivalent.

MATH 306 - LINEAR ALGEBRA (4 credit hours)

Basic concepts of linear algebra: linear equations and matrices, vector spaces and subspaces, similar matrices, basis and dimension, linear transformations, eigenvalues, determinants, orthogonality, coordinate systems, and applications to geometry. Four hours per week. Prerequisites: C or better in MATH 202.

MATH 310 - CALCULUS III (4 credit hours)

Arc length, indeterminate forms, Euclidean spaces, functions of several variables, partial differentiation, multiple integrals. Four hours per week. Prerequisites: C or better in MATH 202.

MATH 311 - DIFFERENTIAL EQUATIONS I (4 credit hours)

Solutions of first and second order equations and their applications: separable, exact,

homogeneous, linear. Numerical and series solutions of ordinary and partial differential equations.

Four hours per week. Prerequisites: C or better in MATH 202.

PHYS 221 - PHYSICS I (4 credit hours)

Introduction to calculus-based Newtonian mechanics for students majoring in physics, engineering and chemistry. Prerequisite or Corequisite: MATH 201. Six hours lecture/activity per week.

PHYS 223 - PHYSICS II (4 credit hours)

Continuation of introductory physics. Topics include: electrostatics, current and resistance, DC and AC circuit analysis, magnetic fields, induction, electromagnetic waves and geometrical and wave optics.

Six hours lecture/ activity per week. Prerequisites: PHYS 221. Pre or Corequisites: MATH 202.

PHYS 225 - PHYSICS III (3 credit hours)

Continuation of introductory calculus-based physics. Topics include: static equilibrium and elasticity, fluid mechanics, wave motion and thermodynamics. Four hours lecture/ activity per week.

Prerequisites: PHYS 221. Pre or Corequisites: MATH 202.

PHYS 470 - SENIOR SEMINAR (1 credit hour)

Senior seminar for Physics majors. Introduction to research practices. Preparation for PHYS 475 or PHYS 490 projects. Prerequisites: 30 credits of physics and/or engineering, or department chair approval. One hour per week.

Appendix B

B.S. Coastal Engineering - Salisbury University Curriculum Guide

First Year

Fall Semester (15 credits)

PHYS 221 (4)

MATH 201 (4)

GEOG 111 (3)

First Year Seminar (4)

Spring Semester (15 credits)

PHYS 223 (4)

MATH 202 (4)

GEOL 103 (4)

ENGR 100 (3)

Second Year

Fall Semester (14 credits)

PHYS 225 (3)

MATH 310 (4)

ENGR 110 (3)

GEOL 211 (1)

Elective (3)

Spring Semester (17 credits)

MATH 311 (4)

ENGR 220 (3)

CHEM 121 (4)

GEOG 311 (3)

Elective (3)

Third Year

Fall Semester (14 credits)

Semester (15 credits) Communication Through

Writing (4)

331 (3)

MATH 306 (4)

ENGR 221 (3)

ENGR 232 (3)

Spring

ENGR

ENGR 411 (3)

Humanity in Context (4)

Personal Wellness (4)

ENGR 306 (1)

Fourth Year

Fall Semester (15 credits)

PHYS 470 (1)

ENGR 412 (3)

ENGR 413 (3)

Human Expression (4)

Social Configurations (4)

Spring Semester (15 credits)

ENGR 490 (3)

ENGR 480 (2)

GEOL 322 (3)

ENGR 414 (3)

Social Issues (4)

**Appendix C
Articulation**

PROGRAM ARTICULATION AGREEMENT

**Between
Wor-Wic Community
College and Salisbury
University**

**Associate of Science in STEM Transfer, Engineering
Concentration to Bachelor of Science in Coastal
Engineering**

August 2025 through July 2030

This Program Articulation Agreement ("Agreement"), effective this 1st day of August 2025 ("Effective Date"), is by and between Wor-Wic Community College, a community college located in Salisbury, Maryland, and Salisbury University, a constituent institution of the University System of Maryland, an agency of the state of Maryland (hereinafter sometimes referred to individually as a "Party" or "Institution" and collectively as the "Parties" or "Institutions"). This Agreement sets forth the joint curricula and program requirements for the completion of the Associate of Science in STEM Transfer, Engineering Concentration from Wor-Wic Community College and the Bachelor of Science in Coastal Engineering at Salisbury University.

RECITALS

Whereas, Wor-Wic Community College and Salisbury University are committed to partnering to expand the educational opportunities and collaborative academic programming of their respective institutions; and *Whereas*, the Institutions are committed to providing a smooth transition for students wishing to earn an associate of arts degree and a baccalaureate degree; and

Whereas, the intent of the Institutions is to avoid duplication of curricula, where appropriate, within articulated programs of studies; and

Whereas, the Institutions agree that the educational growth of students and the economic development of the community is better served through cooperative educational planning and optimal utilization of community resources.

Therefore, this Agreement commits the Parties to full support of an articulation process to deliver coursework for students, resulting in the associate of arts degree from Wor-Wic Community College and credit toward the Bachelor of Science in Coastal Engineering at Salisbury University. The Parties agree to the following:

I. ACADEMIC REQUIREMENTS

- A. The Institutions agree to follow the joint program curriculum and course by course articulation delineated in Appendix 1, which is attached hereto and made a part of this Agreement.
- B. Both Institutions will cooperate toward developing, disseminating, and presenting the articulated program information to students.
- C. Students who have graduated from Wor-Wic Community College program must first apply to Salisbury University. Once a completed application is received, Wor-Wic Community College graduates who have completed the associate's degree program in Associate of Science in STEM Transfer, Engineering Concentration, with a cumulative grade point average of 2.0 or higher will be granted admission to Salisbury University as an Coastal Engineering major.
- D. All articulated course credits applied towards satisfying Bachelor of Science in Coastal Engineering major requirements earned with a C or better will be accepted for transfer according to the articulation matrix in Appendix 1.
- E. Salisbury University shall provide a Checklist for students as a planning tool for completing coursework required for the Bachelor of Science in Coastal Engineering major in Appendix 2, attached hereto and made a part of this Agreement.
- F. Students intending to transfer are recommended to apply for admission by the priority deadline for the semester for which they intend to enroll.
- G. Students are subject to all specific policies pertaining to students admitted to the Salisbury University baccalaureate degree program in Bachelor of Science in Coastal Engineering and all other Salisbury University admissions policies and procedures.

II. TERM AND TERMINATION

- A. The term of this Agreement commences as of the Effective Date listed herein. This Agreement is based on the present curricula contained herein and in all appendices, and is effective for five (5) years from August 2025 to July 2030.
- B. Either Party may terminate this Agreement with notice to the other Party, pursuant to Section III.G below. Upon termination or expiration of this Agreement, the Parties

shall develop a process that will reasonably allow students already admitted to and enrolled in joint programming to continue their studies. Neither Party will terminate this Agreement at a time that would deter a "cohort-in-progress" from completing graduation within the originally designated timeframe.

III. GENERAL PROVISIONS

- A. Each Institution is responsible for the administration of its respective courses, including content, requirements, faculty, and student services (to include, but not limited to, admissions, financial aid, class registration, etc.).
- B. When enrolled in a Salisbury University course, the student is subject to all policies and procedures applicable to Salisbury University students. When enrolled in a Wor-Wic Community College course, a student is subject to all policies and procedures applicable to Wor-Wic Community College students. Additional joint policies and procedures may be adopted and implemented at the discretion of both Parties.
- C. The Parties recognize that course scheduling beyond the associate's degree level resides exclusively with Salisbury University and will be coordinated with Wor-Wic Community College by the designated Salisbury University representative. Where academic calendars differ, the Parties will work together to coordinate class offerings and class schedules.
- D. The disclosure of information about individual students is limited by the federal Family Educational Rights and Privacy Act (FERPA). The Parties agree that release of student educational records to each other is conditioned upon the submission of a signed agreement by the student authorizing such release.
- E. The Parties agree not to release student information to any third-party without the written consent of the other Party and in compliance with FERPA and any other federal or state of Maryland laws, rules, and regulations, and policies of the Parties.
- F. The Parties shall publicize any joint offerings in their respective catalogs, website, and other materials as appropriate. Notwithstanding the foregoing, neither Party may use the names or marks of the other without the prior written approval of the other Party.
- G. The Parties shall inform students in their respective programs of the complementary program opportunities available at each other's respective institution, support each other's marketing efforts toward the same, and encourage students to apply to programs consistent with an individual student's interests.

- H. Notwithstanding anything in this Agreement to the contrary, both Parties retain full authority over their respective courses, programs, and requirements. Both Parties reserve the right to make changes to their respective courses, programs, and requirements. However, each Party shall give to the other reasonable notice and details of changes to this Agreement and other changes in its courses, programs, and requirements that may affect this Agreement. In the event such changes affect the terms of this Agreement, this Agreement and any of its appendices shall be updated as needed to reflect such changes.
- I. The Parties designate the following persons as their respective representatives to coordinate and manage the activities under this Agreement:

Wor-Wic Community College
Kristin Mallory, VP for
Academic Affairs 32000
Campus Drive
Salisbury, Maryland 21804
kmallory@worwic.edu
(410) 334-2813

Salisbury University
Michael Scott, Dean
Richard A. Henson School of Science and Technology
1101 Camden Avenue
Salisbury, Maryland 21801
msscott@salisbury.edu
(410) 543-6489

- J. The designated representatives shall meet as needed, at a mutually agreeable time and location, to discuss various collaborations and other topics of interest to either Institution. A Party may change its representative by giving notice to the other Party.
- K. Either Institution may at any time recommend changes to this Agreement. Both Institutions reserve the right to modify the programs as deemed necessary and agree to inform the appropriate representatives of the other Institution of recommended changes. This Agreement may be modified only in writing signed by both Parties.
- L. All notices under this Agreement must be in writing; delivered in person, by U.S. mail or by email to the representatives listed above in this Section III.
- M. Nothing in this Agreement is intended to form a joint venture between the

Parties. Nothing in this MOU is intended to create rights or benefits for any person or entity other than the Parties.

- N. This Agreement integrates the entire agreement of the Parties and supersedes any and all prior and/or contemporaneous agreements between the Parties, written or oral, with respect to the subject matter of this Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

Wor-Wic Community College

Salisbury University

Deborah Casey, PhD
President

Laurie L. Couch, PhD
Provost and Senior Vice President
of Academic Affairs

Date: _____

Date: _____

APPENDIX 1 of the articulation agreement
Articulation Matrix

The following matrix includes course equivalencies, including general education requirements and courses necessary to satisfy major requirements. The matrix also includes a recommended student curricular pathway to complete the Associate of Science degree and the Bachelor of Science degree requirements.

While the student is not required to take all courses in the precise order recommended in the articulation matrix, all course equivalencies described in the matrix and the manner in which they fulfill general education and major requirements at Salisbury University are binding. Students are strongly advised to seek appropriate advising with regard to the completion of requirements for the associate of science degree, transition to Salisbury University, and completion of all requirements for the Bachelor of Science in Coastal Engineering

WW Course Prefix	WW Course Number	WW Course Title	Credits (at WW)	GenEd at WW	SU Course Prefix	SU Course Number	SU Course Title	Credits (at SU)	GenEd at SU	SU Degree Requirements	Credits Taken by Student
ENG	101	English I	3	Composition	ENGL	103	Research	3	CTW (1 of 10)		14
MTH	201	Calculus I	4	Mathematics	MATH	201	Calculus I	4	QA (2 of 10)	MC (1 of 29)	
PHY	141#	Principles of Physics I	4	Biological/Physical Science	PHYS	221	Physics I	4	STS (3 of 10)	MC (2 of 29)	
EGR	101	Intro to Engineering Design	3		ENGR	100	Intro to Engineering Design	3		MC (3 of 29)	
ENG	151	Fundamentals of English II	3	Arts and Humanities	ENGL	LIT	English Literature Elective	3	HE (4 of 10)		17
MTH	202	Calculus II	4		MATH	202	Calculus II	4		MC (4 of 29)	
GEN	ED	Social/Behavioral Science	3	Social/Behavioral Science	GEN	ED		3	SC (5 of 10)		
PHY	142#	Principles of Physics II	4		PHYS	223	Physics II	4		MC (5 of 29)	
ELEC		General Elective	3		ELEC		TBD	3			13
CHM	105	General Chemistry I	4	al Science	CHEM	121	General Chemistry I	4	HoS (6 of 10)	MC (6 of 29)	
GEN	ED	Science	3	l Science	GEN	ED		3	SI (7 of 10)		
EGR	202	Statics	3		ENGR	110	Statics	3		MC (7 of 29)	
GEN	ED	Requirement	3	Humanities	GEN	ED		3	HiC (8 of 10)		16
MTH	205	Differential Equations	4		MATH	311	Differential Equations	4		MC (8 of 29)	
MTH	203	Calculus III	4		MATH	310	Calculus III	4		MC (9 of 29)	
PHY	243#	Principles of Physics III	4		PHYS	225	Principles of Physics III	4		MC (10 of 29)	
ELEC			4		ELEC			4			15
					GEOG	111	Introduction to Oceans and Coasts	3		MC (11 of 29)	
					GEOL	211	Sediment Analysis	1		29)	
					GEOL	103	Introduction to Physical Geology	4		MC (13 of 29)	
					ENGR	221	Introduction to Physical Dynamics	3		MC (14 of 29)	17
					ENGR	232	Thermodynamics	3		MC (15 of 29)	
					PHYS	270	Sophomore Seminar in Physics, Astronomy, and Engineering	1		MC (16 of 29)	
					MATH	306	Linear Algebra	4		MC (17 of 29)	
					ENGR	220	Mechanics of Materials	3		MC (18 of 29)	15
					ENGR	331	Fluid Mechanics	3		MC (19 of 29)	
					ENGR	411	Introduction to Coastal Engineering	3		MC (20 of 29)	
					ENGR	306	Introduction to MATLAB	1		MC (21 of 29)	
					GEOG	311	Coastal Processes	3		MC (22 of 29)	15
					ENGR	412	Coastal Structures and Beach Nourishment	3		MC (23 of 29)	
					ENGR	413	Coastal Renewable Energies	3		MC (24 of 29)	
					PHYS	470	Senior Seminar	1		MC (25 of 29)	
					FTWL	106	Lifelong Fitness and Wellness	4	PW (9 of 10)		15
					ELEC			4			
					ENGR	480	Fundamentals of Engineering Review	2		MC (26 of 29)	
					ENGR	414	Field Methods and Coastal Modeling	3		MC (27 of 29)	
					ENGR	490	Engineering Capstone Experience	3	EL (10 of 10)	MC (28 of 29)	15
					GEOL	322	Geological Oceanography	3		MC (29 of 29)	
					ELEC			4			
								CC Credits Transferred	60		
								SU Credits	62		

60

- WWCC's PHY 141, 142, & 243 transfer as SU's PHYS 221, 223, 225 as a block

Wor-Wic Community College

Salisbury University

APPENDIX 2 of the articulation agreement
Bachelor of Science Coastal
Engineering Curriculum Fall 2025

This Appendix E outlines the requirements to earn a baccalaureate degree in Coastal Engineering from Salisbury University, as of the Fall 2025 semester. It includes overall Salisbury University curriculum policies, general education requirements, major core courses, and major elective courses.

B.S. Coastal Engineering - Salisbury University
Curriculum Guide

First Year

Fall Semester (15 credits)
 PHYS 221 (4)
 MATH 201 (4)
 GEOG 111 (3)
 GENE FYS (4)

Spring Semester (15-16 credits/30-31)
 PHYS 223 (4)
 MATH 202 (4)
 GEOL 103 (4)
 GENE CTW (3-4)

Second Year

Fall Semester (15-16 credits/45-47)
 PHYS 225 (3)
 MATH 310 (4)
 ENGR 110 (3)
 GEOL 211 (1)
 GENE DI (3-4)
 PHYS 270 (1)

Spring Semester (16-17 credits/61-64)
 MATH 311 (4)
 ENGR 220 (3)
 ENGR 100 (3)
 GEOG 311 (3)
 GENE CCE (3-4)

Third Year

Fall Semester (14 credits/75-78)
 CHEM 121 (4)
 MATH 306 (4)
 ENGR 221 (3)
 ENGR 232 (3)

Spring Semester (14-15 credits/89-93)
 ENGR 331 (3)
 ENGR 411 (3)
 GENE HIC (3-4)
 GENE PW (4)
 ENGR 306 (1)

Fourth Year

Fall Semester (13-15 credits/102-108)
 PHYS 470 (1)
 ENGR 412 (3)
 ENGR 413 (3)
 GENE HE (3-4)
 GENE SC (3-4)

Spring Semester (14-15 credits/116-123)
 ENGR 490 (3)
 ENGR 480 (2)
 GEOL 322 (3)
 ENGR 414 (3)
 GENE SI (3-4)

Appendix D

Engineering Firms – Support Letters



December 12, 2023

♦ ♦ ♦ ♦
ARCHITECTS
ENGINEERS

206 WEST MAIN STREET
SALISBURY, MD 21801
PH: 410.742.3115
PH: 800.789.4462
salisbury@gmbnet.com

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♦ ♦ ♦ ♦

JAMES H. WILLEY, JR., P.E.
CHARLES M. O'DONNELL, III, P.E.
A. REGGIE MARINER, JR., P.E.
JAMES C. HOAGSON, P.E.
STEPHEN L. MARSH, P.E.
DAVID A. VANDERBEEK, P.E.
ROLAND E. HOLLAND, P.E.
JASON M. LYTLE, P.E.
CHRIS B. DERBYSHIRE, P.E.
MORGAN H. HELFRICH, AIA
KATHERINE J. MCALLISTER, P.E.
W. MARK GARDOCKY, P.E.
ANDREW J. LYONS, JR., P.E.

PETER A. BOZICK, JR., P.E.
JUDY A. SCHWARTZ, P.E.
W. BRICE FOXWELL, P.E.

JOHN E. BURNSWORTH, P.E.
VINCENT A. LUCIANI, P.E.
AUTUMN J. BURNS
CHRISTOPHER J. PFEIFER, P.E.
BENJAMIN K. HEARN, P.E.

Dr. Carolyn Ringer Lepre, President
Salisbury University
1001 Camden Avenue
Salisbury, MD 21801

Re: Proposed Bachelor of Science in Coastal Engineering at Salisbury University

My name is James H. Willey, Jr., P.E., and I am the Managing Member/President of George, Miles & Buhr, LLC (GMB), headquartered in Salisbury, Maryland. We support the proposed Bachelor of Science in Coastal Engineering program at Salisbury University. This program will help meet a critical workforce need in the State, particularly on Maryland's Eastern Shore, namely engineering graduates trained to solve our client's most pressing issues related to development and environmental protection in the coastal zone.

GMB is a client-focused firm providing engineering, architectural, surveying, and coastal resiliency services across the Mid-Atlantic region. Founded in 1960, we provide quality design to enhance our communities' infrastructure and safeguard the environment. We currently employ 100 people among five offices, including Salisbury and Sparks, Maryland, as well as lower Delaware offices in Seaford, Ocean View, and Lewes. Hiring qualified engineers is a critical challenge inhibiting the growth and long-term stability of our firm. We typically have 3-5 open engineering positions, limiting our ability to respond to project demand and provide necessary client service.

Most architectural, engineering, and construction (AEC) firms are impacted by the statewide shortage of engineers. The latest statistics show 3,000+ open engineering positions in Maryland. Bureau of Labor Statistics predict 10.8% of engineering jobs remain unfilled. Maryland institutions of higher education produce about 1,600 engineering graduates per year with an unknown, but significant, percentage of those graduates leaving the state to work. With annual graduates accounting for 50% of the demand, the challenge is acute.

In 2023, we employed ten summer interns in hopes of filling permanent openings. We recruited from nearly all universities offering BS programs within 150 miles of Salisbury, as well as students matriculating as far away as Clemson University. We also regularly hire SU Physics and Earth Science majors to assist in technical areas. SU Physics graduates who are able to pass the Fundamentals of Engineering exam are a welcome addition to the local talent pool, but GMB would be better served with an ABET-accredited engineering program. We will continue our decades long support of SU by hiring students with a BS in Coastal Engineering.

GMB has historically suffered recruiting difficulties arising from the dearth of locally produced engineering talent. Our most productive and loyal employees have deep, significant connections to Maryland's Eastern Shore. The lack of an engineering program at Salisbury University specifically impacts our ability to recruit and retain needed local talent.

Thank you for the opportunity to support a program which will address a critical local workforce need. It is refreshing to see the University System of Maryland poised to initiate programs designed to boost the local economy and support the communities in which the Universities operate.

Sincerely,

James H. Willey, Jr., P.E.
Managing Member/President

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WILLARD HACKERMAN
(1916-2014)

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TIMOTHY J. REGAN
PRESIDENT AND CEO

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INFRASTRUCTURE
SUSTAINABILITY

December 4, 2023

Dr. Carolyn Ringer Lepre, President
Salisbury University
1001 Camden Avenue
Salisbury, MD 21801

Dear Dr. Ringer Lepre:

My name is Scott Saxman and I am Division Vice President with The Whiting-Turner Contracting Company in Salisbury, Maryland. I write in support of the proposed Bachelor of Science in Coastal Engineering program at Salisbury University. This program will help fill a critical workforce need in the state of Maryland, particularly on Maryland's Eastern Shore, namely the production of graduates trained to solve some of our client's most pressing issues related to development and environmental protection in the coastal zone.

The Whiting-Turner Contracting Company is a Maryland based client-focused firm that provides comprehensive construction services across the United States. Founded in 1909, we provide quality construction services that enhance our communities and safeguard the environment. We employ over 4,000 people among our 50 office locations across the US. Hiring qualified engineers is a critical challenge that is inhibiting the growth of our firm and of the technical engineering capacity of our local area in general. At any given time, we have a variety of open positions for engineers, limiting our ability to respond to project demand.

Our engineering workforce challenge is multi-dimensional. We, like most other architectural, engineering, and construction (AEC) firms are impacted by the statewide shortage of engineers, with the latest statistics showing more than 3,000 open engineering positions in the state at any given time. The Bureau of Labor Statistics predicts that 10.8% of engineering jobs are currently unfilled. With Maryland institutions of higher education producing about 1,600 engineering graduates per year (and some significant but unknown percentage of those graduates leaving the state to find work), the challenge is acute. We regularly offer over 800 summer internships nationally and over 20 internships locally between our Salisbury and Delaware offices to students from diverse schools such as West Virginia University, Clarkson University and Virginia Tech; we look forward to supporting the BS in Coastal Engineering program at SU with internship offers as well.

Additionally, our firm feels the pinch of a near-complete lack local engineering talent. We have found that our most productive and loyal employees have deep, significant family connections to Maryland's Eastern Shore. These local ties sustain our young workforce as they start families and raise their children while becoming valuable employees at our firm. Therefore, the lack of an engineering program

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OFFICES NATIONWIDE

at Salisbury University specifically impacts our ability to recruit and retain the talent we need to be successful. We have had some success hiring and retaining local Physics graduates with Engineering coursework from SU – we look forward to that program’s faculty producing students from an ABET-accredited program that are well-prepared to pass the Fundamentals of Engineering exam.

Thank you for the opportunity to voice our support for a program that will address such a critical local workforce need. It is refreshing to see the University System of Maryland focused on bringing forth programs at its universities that are designed to boost the local economy and support the communities in which they operate.

Sincerely,
THE WHITING-TURNER CONTRACTING COMPANY

A handwritten signature in blue ink, appearing to read 'Scott Saxman', written over a light blue horizontal line.

Scott Saxman
Division Vice President





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THE TOWER AT STAR CAMPUS
100 DISCOVERY BOULEVARD, SUITE 102
NEWARK, DELAWARE 19713
302.369.3700

3333 JAECKLE DRIVE, SUITE 120
WILMINGTON, NORTH CAROLINA 28403
910.341.7600

www.beckermorgan.com

December 8, 2023

Dr. Carolyn Ringer Lepre President
Salisbury University
1001 Camden Avenue
Salisbury, MD 21801

Re: **SU Coastal Engineering program**

Dear Dr. Lepre:

My name is W. Ronald Morgan, AIA, President of Becker Morgan Group headquartered in Salisbury, Maryland. I'm writing in support of the proposed Bachelor of Science in Coastal Engineering program at Salisbury University. This program will help fill a critical workforce need in Maryland, particularly on the Eastern Shore, where our coastal environments are facing significant challenges.

Becker Morgan Group provides comprehensive engineering, architectural, and planning services throughout the Mid-Atlantic region. Founded in 1983, we design solutions that enhance our communities and safeguard the environment, with a staff of 120 in 5 offices, in Maryland, Delaware and North Carolina. Hiring qualified engineers is a critical challenge that restricts our growth. We often have 5 open positions for engineers, impacting our ability to respond to marketplace demands.

Like most other architectural and engineering firms, we are impacted by the statewide shortage of engineers, with the latest statistics showing more than 3,000 open engineering positions in the state at any given time. We regularly offer up to 10 summer internships to students from the University of Delaware, University of Maryland, Drexel University, and Catholic University of America. We look forward to supporting the BS in Coastal Engineering program at SU with internship offers as well.

We have found that our most loyal employees have deep, significant family connections to Maryland's Eastern Shore. These local ties sustain our young workforce as they start families, raising their children while becoming valuable members of our firm. Therefore, the lack of an engineering program at Salisbury University specifically impacts our ability to recruit and retain the talent we need to be successful.

Thank you for the opportunity to voice support for a program that will address this critical local workforce need. It is refreshing to see the University System of Maryland focused on bringing forth programs at its universities that are designed to boost the local economy and support the communities in which they operate.

Sincerely,

BECKER MORGAN GROUP, INC.

W. Ronald Morgan, AIA President



TOPIC: University of Baltimore (UBalt) proposal for Bachelor of Science (BS) in Artificial Intelligence (AI) for Information Technology (IT) Operations

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: The University of Baltimore seeks approval to introduce a new program, the Bachelor of Science (BS) in Artificial Intelligence for IT Operations. This program aims to equip students with the skills and knowledge necessary to thrive in the rapidly evolving field of artificial intelligence (AI), while also fostering diversity and inclusion in technology education. The BS in Artificial Intelligence for IT Operations intends to prepare students interested in the logistical aspects of integrating AI hardware and software into an organization's information technology (IT) infrastructure. Students will graduate with skills in various AI and related technologies, including programming languages, machine learning, data analytics, cloud computing, cybersecurity, and ethical considerations in AI.

AI is revolutionizing various sectors, leading to a high demand for AI-related skills in the current technology job market. Artificial Intelligence is a significant driver for Maryland's economic growth and technological development, as evidenced by Governor Wes Moore's Executive Order 01.01.2024.02 and Baltimore's designation as a Federal Tech Hub. The University of Baltimore's Bachelor of Science in Artificial Intelligence for IT Operations addresses this demand by providing graduates with a strong foundation in AI principles, technical skills, and practical applications. The program equips students to implement, secure, and scale AI solutions across various sectors, preparing them for immediate employment and positioning them as key contributors to Maryland's technology-driven economy.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the UBalt proposal for a BS in Artificial Intelligence for IT Operations.

COMMITTEE RECOMMENDATION: DATE: December 3, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Alison M. Wrynn 301-445-1992 awrynn@usmd.edu



November 12, 2024

Jay A. Perman, M.D.
Chancellor
University System of
Maryland 3200 Metzerott
Road
Adelphi, MD 20783-1690

Dear Dr. Perman:

The University of Baltimore is proposing a new Bachelor of Science in Artificial Intelligence for IT Operations (proposed CIP 11.0102 and proposed HEGIS code 0799.03). This 120-credit program will equip graduates with the skills and knowledge necessary to thrive in the rapidly evolving field of AI.

The proposed bachelor's program will prepare students interested in the logistical aspects of integrating AI hardware and software into an organization's information technology capabilities. Graduates from this program will be able to apply for MS degree programs in fields related to IT, cyber security, human-centered design and technology-related legal and ethical studies.

If you have any questions, please contact Aaron Wachhaus at 410-837-6113 or awachhaus@ubalt.edu.

Sincerely,

p.p. Aaron Wachhaus, Associate Provost - Academic Affairs
Ralph O. Mueller, Senior Vice President and Provost

Encl.

cc: Dr. Candace Caraco, Associate Vice Chancellor for Academic Programs, Academic & Enrollment Services and Articulation

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

<u> X </u>	New Instructional Program
<u> </u>	Substantial Expansion/Major Modification
<u> </u>	Cooperative Degree Program
<u> X </u>	Within Existing Resources, or
<u> </u>	Requiring New Resources

University of Baltimore

Institution Submitting Proposal

BS in Artificial Intelligence for IT Operations

Title of Proposed Program

Bachelor's of Science

Award to be Offered
Date

Fall 2025

Projected Implementation

0799.03

Proposed HEGIS Code

11.0102

Proposed CIP Code

Vale Gordon College of Arts & Sciences

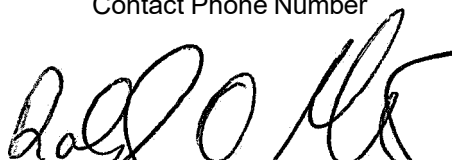
Department in which program will be located


Giovanni Vincenti

Department Contact

Contact Phone Number

Contact E-Mail Address


Signature of President or Designee


Date

A. Centrality to Institutional Mission and Planning Priorities:

A.1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The University of Baltimore (UBalt), a Predominantly Black Institution in Maryland, is seeking authorization from MHEC to introduce a new program: Bachelor of Science in Artificial Intelligence for IT Operations. This program aims to equip students with the skills and knowledge necessary to thrive in the rapidly evolving field of AI, while also fostering diversity and inclusion in technology education. It offers a comprehensive understanding of AI principles, practical applications, and ethical considerations.

The Bachelor of Science in Artificial Intelligence for IT Operations intends to prepare students interested in the logistical aspects of integrating AI hardware and software into an organization's information technology (IT) capabilities. The program is designed to attract first-year college students as well as transfer students from local community colleges who earned an AS or AAS degree in an IT field. The program is designed for in-person delivery, as the students will have access to specialized hardware and software that will be managed through the University. Graduates interested in the workforce will qualify for AI-centered jobs related to IT operations, cyber security, and consulting. Graduates will qualify for MS degree programs in fields related to IT, cyber security, human-centered design, and technology-related legal and ethical studies.

The curriculum prepares students for the cutting-edge technologies and methodologies by providing fundamental knowledge and hands-on experience through individual and group work, problem-solving, and critical thinking exercises. Students will graduate with skills in various AI and related technologies, including programming languages, machine learning, data analytics, cloud computing, cybersecurity, and ethical considerations in AI.

The program begins with introductory courses in programming, information technology fundamentals, statistics, and mathematical structures for information technology, providing a firm technical foundation. Building on this foundation, students will then learn core concepts and techniques in AI, allowing them to develop a deeper understanding of the field. The program includes a variety of advanced AI topics such as Cloud and Edge Intelligence, Software Development and AI, and AI and Cyber Security enabling technical mastery in specific subfields.

We are excited to offer our students the flexibility of different entry points into the program: they may enter as freshmen who spend four years at UBalt, or they may enter smoothly at several different points as transfer students from community colleges, or as working professionals who want to further develop their AI & IT skills. Courses are taught during day and evening sessions.

The program consists of 60 required credits and has the following breakdown:

- Artificial Intelligence for IT Operations Core, 45 credits
- Mathematics, 6 credits
- Philosophy, 3 credits
- Human-Centered Design, 3 credits
- Capstone, 3 credits

A.2. *Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.*

The mission of the University of Baltimore is the following:

The University of Baltimore offers career-focused education for aspiring and current professionals, providing the region with highly educated leaders who make distinctive contributions to the broader community. The UBalt vision is to be the premier regional university for career advancement, where leaders grow, thrive, and learn to apply their skills for solving local and global challenges.

The University of Baltimore provides innovative education in business, public affairs, the applied liberal arts and sciences, and law to serve the needs of a diverse population in an urban setting. A public university, the University of Baltimore offers excellent teaching and a supportive community for undergraduate, graduate and professional students in an environment distinguished by academic research and public service. The University:

- Makes excellence accessible to traditional and nontraditional students motivated by professional advancement and civic awareness.
- Establishes a foundation for lifelong learning, personal development and social responsibility.
- Combines theory and practice to create meaningful, real-world solutions to 21st-century urban challenges; and
- Is an anchor institution, regional steward, and integral partner in the culture, commerce, and future development of Baltimore and the region.

The Artificial Intelligence for IT Operations program serves the University's mission by ensuring that both traditional and non-traditional students can benefit by:

- Offering courses at times that are convenient for both groups of students.
- Making accommodations so that we can meet with students for office hours at times that do not overlap with traditional work hours.
- Letting our faculty members set timelines and deadlines for course assignments and projects in a way that is mindful of traditional work demands.

Moreover, the Program provides the most relevant education to our students by:

- Combining theory and practice in each course.
- Ensuring that our students have as many hours of hands-on experience as the curriculum allows.
- Asking the students to complete practical and relevant projects for each course.
- Discussing the latest technologies.
- Adapting the curriculum to the demands of the job market.
- Providing up-to-date labs and other support for students.

The University of Baltimore's Strategic Goals are to:

1. Position UBalt as the region's premier professional, career-focused university
2. Strengthen student success

3. Solidify UBalt's commitment to community engagement and service
4. Organize for long-term financial stability
5. Achieve excellence in research, scholarship, and creative activity
6. Strengthen UBalt's commitment to diversity, equity and inclusion

AI is revolutionizing various sectors, leading to a high demand for AI-related skills in the current technology job market. This program offers courses that teach the fundamentals of AI and its applications and include emerging trends and technologies in AI and IT. The proposed program directly aligns with the institution's strategic goals 1, 2, and 6 in several important ways, reinforcing its significance for the institution's growth and mission. Below are some ways in which the program supports these strategic goals:

Goal 1: The program is designed with a rigorous curriculum that reflects the latest advancements in AI and IT research and technology, aligning with the institution's goal of providing high-quality education. It is also designed to address the growing demand for professionals skilled in AI and IT, reinforcing the university's status as a premier training ground for top talent and preparing graduates to succeed in a competitive marketplace. In addition, this program aims to integrate AI education/literacy into various academic fields (AITC 270 Basic Concepts of Artificial Intelligence: open to all at UBalt students), promoting AI literacy among all students and ultimately aiding in the creation of a talented, AI-informed workforce that addresses global demands.

Goal 2: The program combines essential knowledge and practical skills that can equip students to face future challenges and enhance their achievements. The program encourages collaboration with other departments, such as philosophy and ethics, and environmental science, which supports the strategic goal of fostering interdisciplinary learning. This approach prepares students to tackle complex problems from multiple perspectives. Also, regular curriculum revisions and updates will help maintain the program's relevance and effectiveness.

Goal 6: The program emphasizes diversity, equity, and inclusion (DEI) in both curriculum development and recruitment initiatives, ensuring representation of varied perspectives. It also promotes interdisciplinary initiatives and research that examine diversity-related topics, encouraging collaboration across departments. This approach supports the institution's strategic objectives of fostering an inclusive learning environment.

The mission of the Yale Gordon College of Arts and Sciences is the following:

The Yale Gordon College of Arts and Sciences promotes critical thinking, encourages innovation and discovery, and enriches the intellectual lives of its diverse community of learners. Through interdisciplinary and discipline-based programs in the arts, humanities, and social and natural sciences, the college offers visionary, integrative learning and teaching environments enhanced with rapidly evolving information and communication technologies. Our graduates learn to be reflective, skilled communicators, adept at addressing contemporary problems within an ethical framework and able to adapt to a changing world. To be well prepared for the world of work, our students become broadly informed and deeply engaged in local, regional, and world communities.

The program supports the College by preparing students for professional success in a rapidly

changing technology environment, by promoting critical thinking, independent as well as collaborative work (formal and informal), and effective written and oral communication in its courses, and by adapting to a rapidly changing technology environment.

A.3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation. (Additional related information is required in section L.

The program will be overseen by our current faculty, allowing us to avoid the need for new hires. Our existing faculty have the expertise required to effectively deliver the curriculum. We are also prepared to bring in adjunct faculty as needed, ensuring we meet the demands of the program while maintaining quality instruction. Detailed financial information is presented in Section L of this proposal.

A.4. Provide a description of the institution's commitment to:

a) ongoing administrative, financial, and technical support of the proposed program

The program's requirements will be fulfilled within the limits of the current faculty's teaching responsibilities. If necessary, supplementary compensation for overloads will be implemented.

b) continuation of the program for a period of time sufficient to allow enrolled students to complete the program.

We are deeply committed to offering the program for as long as reasonably required to effectively build and maintain a strong and sustainable level of enrollment. This ensures that we can effectively meet the needs of our students.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan:

B.1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:

a) The need for the advancement and evolution of knowledge

b) Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education

c) The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs

The State of Maryland has recognized the significance of Artificial Intelligence (AI) as a driver for economic growth and technological development, as evidenced by Governor Wes Moore's Executive Order 01.01.2024.02 and Baltimore's designation as a Federal Tech Hub. The University of Baltimore's Bachelor of Science in Artificial Intelligence for IT Operations addresses this demand by providing graduates with a strong foundation in AI principles, technical skills, and practical applications. The program equips students to implement, secure,

and scale AI solutions across various sectors, preparing them for immediate employment and positioning them as key contributors to Maryland's technology-driven economy.

As a Minority-Serving Institution, the University of Baltimore is committed to expanding educational opportunities in AI for minority and economically disadvantaged students, helping them access higher-paying careers and reducing the risk of job displacement due to automation. The program's unique focus on AI for IT operations complements offerings at regional institutions, including Historically Black Colleges and Universities (HBCUs). Covering AI applications from smart devices to cloud and edge computing systems, the curriculum is aligned to meet the workforce needs of Maryland's emerging technology sectors and foster partnerships with local tech companies, government agencies, and research institutions. This alignment supports regional economic development and creates opportunities for internships, research projects, and community engagement that enhance the impact of AI across the state.

B.2. Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.

The program targets underrepresented and economically disadvantaged students to reduce barriers and increase participation in STEM fields, supporting Maryland's goal of equitable access to higher education. As a Minority-Serving Institution, the University of Baltimore is uniquely positioned to offer this program, providing opportunities that empower students to access higher-paying careers and reduce risks of job displacement due to automation and AI. With a focus on real-world applications of AI in IT operations, the curriculum equips students with foundational knowledge and prepares them for immediate employment. By integrating technical and human-centered components, the program aligns with the State's goal of enhancing student success and fostering innovation. It includes AI applications in cloud and edge computing, emphasizing security and addressing the State Plan's Priority 8 by promoting risk-taking and problem-solving through an equity lens. The program contributes to the state's broader objectives of innovation, inclusivity, and equity in higher education, ensuring that graduates are technically proficient and equipped to support Maryland's evolving workforce needs and economic development.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:

C.1. Describe potential industry or industries, employment opportunities, and expected level of entry (ex: mid-level management) for graduates of the proposed program.

Graduates of the Bachelor of Science in Artificial Intelligence for IT Operations at the University of Baltimore will be prepared for a variety of roles across several industries, reflecting the growing demand for AI expertise in Maryland. AI is increasingly integral to operations in the following sectors:

1. **Technology and IT Services:** With Baltimore's recent designation as a Federal Tech Hub, graduates can expect significant opportunities within local tech firms specializing in software development, cloud computing, and cybersecurity. Examples include:

- *Northrop Grumman*: Headquartered in Maryland, it offers AI-related roles like Machine Learning Engineers and AI/ML Operations Analysts.
 - *Booz Allen Hamilton*: A consulting firm with a significant presence in Maryland, focusing on AI for government and commercial clients.
 - *Mindgrub Technologies*: A Baltimore-based tech agency that offers roles like AI Engineers, Cloud Solutions Engineers, and Data Operations Analysts.
2. **Government and Defense**: Maryland is home to many federal agencies, defense contractors, and cybersecurity firms that integrate AI for enhanced operations, threat detection, and automation, such as:
 - *National Security Agency (NSA)*: Offers AI roles related to cybersecurity, threat detection, and automation of network operations.
 - *U.S. Cyber Command*: Focuses on AI integration to secure national infrastructure, with roles like Cyber Operations Specialists.
 3. **Healthcare and Biotech**: AI is pivotal in Maryland’s healthcare sector, aiding in predictive analytics, patient monitoring, and healthcare IT operations.
 - *Johns Hopkins Medicine*: Uses AI in medical devices, patient monitoring, and healthcare IT operations.
 - *MedStar Health*: Utilizes AI for predictive analytics and patient care optimization.
 4. **Finance and Insurance**: AI’s role in financial services and insurance includes automating risk assessment, fraud detection, and customer service operations.
 - *T. Rowe Price*: Uses AI for data analysis, risk assessment, and customer service automation.
 - *CareFirst BlueCross BlueShield*: Leverages AI for fraud detection, customer support, and operational efficiency.
 5. **Manufacturing and Logistics**: AI is used to optimize supply chains, manage inventory, and enhance production efficiency.
 - *Stanley Black & Decker*: Uses AI for supply chain optimization and process automation.
 - *Under Armour*: Employs AI to improve inventory management, customer insights, and logistics.

C.2. *Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.*

The core areas of focus in this program include AI and IT technologies, with an emphasis on their applications in diverse fields. These areas are essential in today’s technology market. The Occupational Outlook Handbook, published by the US Bureau of Labor and Statistics (BLS), offers the following potential for occupations related to AI/IT occupations. The table below shows a breakdown of some key AI and IT occupations, including statistics on employment projections and wage data based on the latest information from the Bureau of Labor Statistics (BLS).

Occupation	2023 Median Pay	Number of Jobs, 2023	Job Outlook, 2023-33	Employment Change, 2023-33
Computer and Information Research Scientists	\$145,080 per year \$69.75 per hour	36,600	26% (Much faster than average)	9,400
AI Researchers are part of the computer and information research scientist's category	\$145,080 per year \$69.75 per hour	36,600	26% (Much faster than average)	9,400
Software Developers (AI-focused), Quality Assurance Analysts, and Testers	\$130,160 per year \$62.58 per hour	1,897,100	17% (Much faster than average)	327,900
Machine Learning Engineers (not a distinct category in BLS but related to software development)	\$130,160 per year \$62.58 per hour	1,897,100	17% (Much faster than average)	327,900
Data Scientists	\$108,020 per year \$51.93 per hour	202,900	36% (Much faster than average)	73,100
Computer Systems Analysts	\$103,800 per year \$49.90 per hour	527,200	11% (Much faster than average)	56,500
Database Administrators and Architects	\$117,450 per year \$56.46 per hour	141,900	9% (Much faster than average)	13,200
Information Security Analysts	\$120,360 per year \$57.87 per hour	180,700	33% (Much faster than average)	59,100
Web Developers and Digital Designers	\$92,750 per year \$44.59 per hour	222,600	8% (Faster than average)	18,600
Computer Network Architects	\$129,840 per year \$62.42 per hour	177,800	13% (Much faster than average)	23,900
Network and Computer Systems Administrator	\$80,600 per year \$38.75 per hour	350,000	5% (Average)	18,200
AI Trainer	\$95,000 per year \$45.67 per hour	113,300	18% (Much faster than average)	3,000
Robotics Engineer	\$105,190 per year \$50.57 per hour	132,500	6.4% (Average)_	40,000

Source: <https://www.bls.gov/ooh/computer-and-information-technology/computer-and-information-research-scientists.htm#tab-8>

As companies increasingly integrate AI into their operations, the AI job market is expected to grow significantly in the coming years (see table above) by offering competitive salaries and

diverse opportunities. Staying up to date on these technological advancements and continuously enhancing skills will be key for professionals looking to thrive in this dynamic field.

As these areas demonstrate a growth rate that is either comparable to or faster (in some cases much faster) than average, they are of economic and technological importance to the Baltimore region and therefore of central importance to UBalt's mission.

C.3. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.

Recent market surveys and industry reports highlight the increasing demand for professionals with expertise in AI, IT operations, and related fields. The following evidence provides quantifiable data on training needs and anticipated job vacancies over the next five years:

U.S. Bureau of Labor Statistics (BLS) Projections

- The BLS projects that roles in AI and related fields, such as Data Scientists, Machine Learning Engineers, Information Security Analysts, and Computer and Information Research Scientists, will grow significantly.
 - Data Scientists and Mathematical Science Occupations: Expected to grow 36% from 2023 to 2033, adding around 40,000 new jobs nationwide.
 - Information Security Analysts: Anticipated to grow by 35%, with an expected 57,000 new positions over the same period.
 - Computer and Information Research Scientists: Projected growth of 21%, reflecting an increase in demand for AI and machine learning specialists.
 - Source: <https://www.bls.gov/ooh/>

CompTIA IT Industry Outlook (2024)

- CompTIA's 2024 IT Industry Outlook survey indicates that 58% of companies are investing in AI-related technologies, driving the need for training in AI development, implementation, and maintenance.
- The survey also notes that 63% of IT professionals expect increased hiring in AI roles, with anticipated demand for training programs tailored to AI integration within IT operations.
- Source: <https://connect.comptia.org/content/research/it-industry-trends-analysis>

Burning Glass Technologies Labor Insights (2024)

- Burning Glass Technologies' labor market analysis identifies nearly 500,000 AI-related job postings across the U.S. in the past year, with a projected increase of 20% over the next five years.
- The analysis also shows that positions related to AI implementation and support, including roles like AI Engineers, Cloud AI Specialists, and AI Trainers, are among the fastest growing, with a significant need for specialized training programs to meet these demands.
- Source: <https://www.burningglassinstitute.org/research/2023-skills-compass-report>

National Association of Colleges and Employers (NACE) 2024 Survey

- According to the NACE survey, 71% of employers across sectors plan to hire for AI-related positions, particularly those focused on AI applications in IT operations, cloud computing, and cybersecurity.
- The survey also identifies a gap in skills related to AI implementation, with 42% of employers stating a need for more graduates who possess both technical AI skills and operational expertise.
- Source: <https://www.naceweb.org/research/reports>

LinkedIn Workforce Report (2024)

- LinkedIn's report on emerging jobs identifies AI Specialist and Machine Learning Engineer as two of the top 10 fastest-growing roles, with vacancies expected to increase by 25% over the next five years.
- It also highlights the need for education and training in AI ethics, security, and human-centered design, underscoring the importance of programs that incorporate both technical and human-centric AI skills.
- Source: <https://economicgraph.linkedin.com/resources/linkedin-workforce-report-january-2024>

Maryland Department of Labor Employment Projections

- In Maryland, AI-focused roles, such as AI Engineers and Data Scientists, are projected to grow by 28% from 2023 to 2033, adding approximately 4,800 new jobs.
- The state's emphasis on becoming a tech hub aligns with the demand for educational programs that equip students with AI skills, particularly in IT operations, cybersecurity, and cloud-based AI solutions.
- Source: <https://www.labor.maryland.gov/lmi/iandoproj/>

The evidence from these surveys and reports demonstrates a clear demand for educational programs in AI for IT operations, with substantial anticipated growth in job vacancies. Establishing such a program will address both current and future labor market needs, providing students with skills that align with evolving industry requirements.

C.4. Provide data showing the current and projected supply of prospective graduates.

Current Supply of Graduates

- According to the National Center for Education Statistics (NCES), the number of graduates in computer science and related fields has steadily increased over the past five years. In the 2021-2022 academic year, approximately 88,633 students earned bachelor's degrees in computer and information sciences in the U.S.
- Source: https://nces.ed.gov/programs/digest/d20/tables/dt20_325.35.asp
- AI-specific programs have expanded significantly in recent years, with an estimated 5,000 to 10,000 graduates completing degrees or certifications focused on AI, machine learning, and data science in 2022. This estimate aligns with data from the Stanford Institute for Human-Centered Artificial Intelligence (HAI), which tracks AI education trends across U.S. institutions.
- Source: <https://hai.stanford.edu/research/ai-index-report>

- In Maryland, roughly 2,000 students graduated with computer science and IT-related degrees in 2022, with about 300 specializing in AI, data science, or related fields, according to the Maryland Higher Education Commission (MHEC).

Source:

<https://mhec.maryland.gov/publications/Documents/Research/AnnualPublications/2022DataBook.pdf>

Projected Supply of Graduates (2023-2033)

- National Projections: Based on enrollment trends and the expansion of AI-related programs, the number of graduates specializing in AI, machine learning, and data science is expected to increase by 30% over the next decade. By 2033, an estimated 120,000 graduates are projected to earn degrees annually in computer science fields, with approximately 10,000 focusing specifically on AI-related disciplines.
- In Maryland, the number of AI-focused graduates is projected to grow by 35% over the next 10 years, in line with the state's strategic goals of becoming a leading tech hub. This could result in approximately 400 to 450 AI-focused graduates per year by 2033.
- Growth in AI-related education is supported by initiatives like the AI for Workforce Program and the Maryland Tech Hub, which aim to boost enrollment in AI and IT operations programs across local institutions.

Source: <https://www.businesswire.com/news/home/20210803005312/en/Intel-Launches-AI-for-Workforce-Program-for-Students-in-18-Community-Colleges>

Factors Influencing Graduate Supply

- The increase in AI-related programs at both undergraduate and graduate levels, along with the growing number of online and hybrid courses, is expected to support a higher output of qualified graduates.
- The growth of specialized training programs, boot camps, and certification courses in AI and IT operations is projected to enhance the supply of job-ready graduates, contributing to the overall workforce in the AI sector.
- Data from the U.S. Bureau of Labor Statistics (BLS) supports this projected growth, indicating significant demand for computer and information research scientists, which will drive the need for more graduates.

Source: <https://www.bls.gov/ooh/computer-and-information-technology/computer-and-information-research-scientists.htm>

The data reflect a steady increase in both the current and projected demand for AI and IT-focused graduates, both nationally and in Maryland. The proposed program aims to meet this growing demand by producing graduates with skills aligned to evolving industry needs.

D. Reasonableness of Program Duplication:

D.1. Identify similar programs in the State and/or same geographical area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.

A program title and CIP search was performed in October 2024, on MHEC's online Academic

Program Inventory. We used CIP codes 11.0102 and 11.0103, as well as keywords such as Information Technology and Artificial Intelligence. We found two undergraduate programs with potential similarities, and they are included in the following table. We also included the comparison of our program to three undergraduate programs for which the institutions sent a Letter of Intent (LOI), but that were not yet accompanied by a proposal. These three programs were also included in the table below.

Institution	Program	Differentiation
Capital Technology University	B.S. in Artificial Intelligence Modality: In person	The curriculum focuses primarily on AI algorithms and implementations, with significant emphasis on computer science and mathematics. Our program focuses on the integration of AI capabilities in an IT infrastructure and its operations. The geographic location is also different, as we intend to serve the Baltimore metropolitan area while CTU serves DC and neighboring Maryland counties.
University of Maryland Global Campus	B.S. in Artificial Intelligence Modality: Online	The program focuses on AI Applications and AI Development. Even though our program includes some programming courses, our main focus is to teach students how to integrate AI capabilities into an IT infrastructure, which often includes making it available as a service. Our program also focuses on networking, cyber security, and cloud and edge computing solutions. The program at UMGC is offered online, while our program will be offered in person.
Submitted LOIs		
Bowie State University	B.S. in Artificial Intelligence	Based on the information available in the LOI, Bowie State University seems to focus their program entirely on computer science. As our program is centered around Information Technology, our approach is significantly different.
University of Maryland College Park	B.A. in Artificial Intelligence	Based on the information available in the LOI, UMCP will focus the B.A. degree entirely on a Liberal Arts approach. Although our program includes a human-centered component, the majority of our curriculum is technical in nature and therefore different from this intended program.

University of Maryland College Park	B.S. in Artificial Intelligence	Based on the information available in the LOI, UMCP will focus the B.S. degree entirely on applied AI and how it relates to other contexts, especially social and of public policy. The program will also focus heavily on mathematics, computing, and engineering. Our program focuses instead on the integration of AI capabilities in an organization's IT infrastructure.
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D.2. Provide justification for the proposed program.

The International Monetary Fund expects that AI will transform the global economy affecting over 40 percent of jobs around the World through automation or radical transformation. (Source: <https://www.imf.org/en/Blogs/Articles/2024/01/14/ai-will-transform-the-global-economy-lets-make-sure-it-benefits-humanity>). Employment trends have already recorded significant growth in AI-related positions, with Forbes reporting an increase of 74 percent of jobs that revolve around AI, suggesting the importance of this technology, prompting the need for reskilling and upskilling.

The Bachelor of Science in Artificial Intelligence for IT Operations emphasizes the practical applications of AI in IT infrastructures, focusing on how to use existing hardware and software technologies to enable AI capabilities. These applications are crucial as businesses and government entities transition from traditional models to AI-enhanced operations. The curriculum's emphasis on security, automation, and scalability ensures that graduates are prepared to implement AI effectively in real-world contexts. Additionally, ethical and human-centered components ensure that AI is applied responsibly, with humans guiding the technology rather than being controlled by it.

The program will focus on a range of technologies that span from the end user, such as smart devices that may be in any home, to architectures that are typical of cloud- and edge-computing systems. This wide exposure will prepare students for an end-to-end implementation of AI-based systems, enabling them to become not only technically proficient, but also able to document and articulate processes that span from the fringes to the core of this new form of digital network of interconnected, AI-enabled devices.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

E.1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.

According to the current MHEC Program Inventory, none of the HBIs in the State currently offer undergraduate programs in artificial intelligence. Thus, we do not expect any impact on high-demand HBI programs.

F. Relevance to the identity of Historically Black Institutions (HBIs)

F.1. Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

We expect no effect on the uniqueness and institutional identities and missions of HBIs since none of the HBIs in the State currently provide undergraduate programs that emphasize applications of Artificial Intelligence for Information Technology.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR13B.02.03.10):

G.1. Describe how the proposed program was established, and also describe the faculty who will oversee the program.

This is a new program that is cross-disciplinary in nature. It will be taught by the University of Baltimore's Yale Gordon College of Arts and Sciences faculty from Applied Information Technology, User Experience Design, Mathematics, and Legal, Ethical and Historical Studies. A list of faculty members is reported in section I.

G.2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

The proposed program focuses on the integration of Artificial Intelligence with existing IT infrastructures, so it is essential for students to gather a wholistic view not only of artificial intelligence but in the technical context in which it will exist. The Program Learning Outcomes are the following:

1. Describe different AI algorithms and the context in which they operate, including training and operational needs.
2. Identify hardware and software requirements for AI-enabled systems.
3. Design secure AI-enabled systems that meet the needs of stakeholders.
4. Implement local and distributed AI-enabled systems.
5. Communicate hardware, software, and implementation requirements related to AI-based projects.
6. Articulate ethical and human-centered factors related to AI-enabled systems.

The program will be offered in-person only.

G.3. Explain how the institution will:

- a) provide for assessment of student achievement of learning outcomes in the program*
- b) document student achievement of learning outcomes in the program*

Program goals have been mapped across all courses in the curriculum and assessments for each competency and goal occur within courses. Rubrics are developed by the department and used to assess artifacts collected by faculty bi-annually. Departmental assessment meetings discuss ways to improve student outcomes across the curriculum and improvements are not limited to the

courses where the assessment occurs. Finally, the Yale Gordon College of Arts and Sciences conducts bi-annual Assessment Retreats where assessment results are presented to a broad constituency.

G.4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements

Program Requirements

Course	Title	Credits
AITC 151	Computer Programming I	3
AITC 251	Computer Programming II	3
AITC 253	Client-Side Web Development	3
AITC 270	Basic Concepts of Artificial Intelligence	3
AITC 310	Computer Networks	3
AITC 317	Virtualization and Cloud Computing	3
AITC 332	Computer Security	3
AITC 356	Database Systems	3
AITC 372	AI Algorithms and Implementations	3
AITC 375	IoT, Smart Devices, and Sensor Data	3
AITC 453	Server-Side Web Programming	3
AITC 470	Cloud and Edge Intelligence	3
AITC 471	Software Development and AI	3
AITC 475	AI and Cyber Security	3
AITC 491	Capstone in AI	3
GAME 324	Designing for Humans	3
INSS 350	Fundamentals of Machine Learning for Business	3
MATH 115	Introductory Statistics	3
MATH 321	Mathematical Structures for Information Technology	3
PHIL 450	AI and Philosophy	3
<i>Total Credits</i>		<i>60</i>

Course Descriptions

AITC 151, Computer Programming I (3 credits)

A fundamental programming course focused on developing computational skills in problem-solving, algorithm development and program design, and principles of good programming. Topics include program flowcharting, pseudo-coding, input / output techniques, control structures, data types, modularization, procedures and file handling. A high-level programming language will be introduced and used throughout the course to supplement the theoretical foundations.

AITC 251, Computer Programming II (3 credits)

Introduces the syntax of an object-oriented language and teaches object-oriented programming

concepts and design. To teach these concepts, the course presents an object-oriented programming language such as Java, C#, or C++, while developing problem-solving and algorithm design skills.

AITC 253, Client-Side Web Development (3 credits)

Introduces students to the basics of client-side web programming by looking at the Document Objects Model's structure and adding dynamic properties. Topics include HTML, CSS and JavaScript, with an introduction to frameworks such as JQuery and React.

AITC 270, Basic Concepts of Artificial Intelligence (3 credits)

Offers an introductory survey of artificial intelligence (AI), exploring its foundational concepts, key models, and real-world applications. Students examine different AI systems, their roles in transforming society, and the ethical considerations surrounding their use. Topics include AI's impact on human-machine interaction, data analysis, and autonomous systems, as well as discussions on the future of AI. This course is designed for students seeking a broad understanding of AI and its societal implications.

AITC 310, Computer Networks (3 credits)

An introduction to computer networks, including network operating system concepts. Topics include network components, layered network architectures, topologies, network protocols, Ethernet, wireless transmission, local area networks, wide area networks, switching and routing, network configuration and troubleshooting. Course also prepares students for CompTIA's Network+ certification exam.

AITC 317, Virtualization and Cloud Computing (3 credits)

This course exposes students to current topics and technologies in virtualization and cloud computing. Students become familiar with the various aspects of cloud computing systems and analyze new approaches. Topics include the concepts and principles of virtualization; the mechanisms and techniques of building virtualized systems; cloud architectures and service models, the economics and benefits of cloud computing, public cloud infrastructures such as Amazon Web Services, Google Cloud Platform and Microsoft Azure; free cloud services and open source software; and security in cloud computing.

AITC 332, Computer Security (3 credits)

Introduces students to core principles and practices in computer and network security. Covers the fundamentals of computer/network security including general security concepts; threats and vulnerabilities; application, data and host security; access control and identity management; basics of cryptography; and compliance and operational/organizational security. Current topics in computer security such as cloud computing security and application programming development security also are discussed. Course materials prepare students for the vendor-neutral CompTIA Security+ industry certification exam.

AITC 356, Database Systems (3 credits)

Introductory course to database design and implementation. Topics include modeling using Entity-Relationship (E-R) diagrams, query formulation with Structured Query Language (SQL), database planning and design, normalization, creating and maintaining a database administration. Basic concepts of the relational data model and SQL are discussed in detail. Students plan,

design and test a relational database and associated application components. They also obtain hands-on experience using a current version of Microsoft SQL Server Database Management System or another system.

AITC 372, AI Algorithms and Implementations (3 credits)

Introduces students to data structures and algorithms, which are the programmatic components that enable computers to mimic human intelligence. Students become familiar with complexity as a metric to compare algorithmic and structural implementations. Topics include recursion, linear and non-linear data structures, and algorithms for supervised, unsupervised, and reinforcement learning. The course utilizes multiple object-oriented programming languages.

AITC 375, IoT, Smart Devices, and Sensor Data (3 credits)

Exposes students to the emerging technologies and trends associated with the Internet of Things (IoT), smart devices, and sensor data. Topics include IoT architecture, IoT communication protocols, smart devices and their practical functions, IoT-enabled AI applications, integration with cloud services, sensor data collection and analysis, and IoT applications and case studies. Ethical considerations in IoT deployment and sensor data security issues are also discussed.

AITC 453, Server-Side Web Programming (3 credits)

Focuses on the development of applications that reside on the server, powering the logic layer of modern software solutions based on three-tier and multi-tier architectures. Students learn server-side programming languages and frameworks, while balancing performance, security, and maintainability. Technologies include PHP, JSON, Node.JS, and various database query languages. Requires students to implement web applications in phases.

AITC 470, Cloud and Edge Intelligence (3 credits)

Focuses on IT infrastructures and computing environments that leverage large-scale resources to enable AI operations. Explores the foundations of distributed and parallel systems identical to cloud-based computing environments, which are essential in handling large volumes of data processing and the training of AI models. Introduces the differences between cloud-based and edge-based systems from the design and cyber security perspective. The course utilizes multiple object-oriented programming languages.

AITC 471, Software Development and AI (3 credits)

Focuses on the utilization of artificial intelligence (AI) in two ways: as an assistant to application development and as an entity that extends the capabilities of the application that is being developed. Introduces AI as a tool to identify, collect, and manipulate data that will power applications. Discusses how the process of developing, deploying, and maintaining applications can be integrated with AI tools. The course focuses on user-facing applications, such as interactive websites, as well as autonomous software, such as autonomous agents. The course utilizes multiple object-oriented programming languages.

AITC 475, AI and Cyber Security (3 credits)

Introduces the conceptual and technological aspects of artificial intelligence (AI) and their application to cybersecurity. Provides a mix of theoretical principles, practical exercises, and applied case studies. Ethical and privacy issues in AI and cybersecurity integration are also discussed. Students develop familiarity with research and information resources to forecast

emerging problems and strategies in this area.

AITC 491, Capstone in AI (3 credits)

Provides students with hands-on work experience in applied artificial intelligence. Students will participate in an in-house project managed by the instructor. Students attend regular class meetings as part of their project work. Alternatively, students may arrange placement with an external organization, subject to written approval by the instructor and an official of the organization.

GAME 324, Designing for Humans (3 credits)

Introduces key concepts of human/computer interaction, including how humans interact with technology to find and process information. It also introduces the concepts of systematic software testing to students of applied information technology and students of interactive simulation and computer gaming. Students learn principles of interface and software construction and apply them to practical problems of software or game evaluation in the process of learning principles that underlie good interaction and play design. Readings cover theory of human/computer interaction, interaction design and usability testing.

INSS 350, Fundamentals of Machine Learning for Business (3 credits)

This course provides a systematic understanding of why and when machine learning models can help business decision-making processes in various areas. Students learn the use of unsupervised techniques, such as clustering, association, and dimensionality reduction, and supervised techniques, such as regression and classification. Algorithms covered include logistic regression, support vector machines, decision trees, K-Means, KNN, random forest, etc. Hands-on exercises using Python also teach students how to perform machine learning analyses, from data preprocessing to model evaluation. An introduction to deep learning concepts, including tools such as neural networks, caps off the course.

MATH 115, Introductory Statistics (3 credits)

An overview of descriptive and inferential statistics. Statistics is inherently applied the course emphasizes solutions to problems in a variety of applied settings. Measures of location and variability, probability distributions, correlation and regression, sampling and sampling distributions, hypothesis testing and estimation with confidence intervals for means and proportions are explored.

MATH 321, Mathematical Structures for Information Technology (3 credits)

A study of number systems, sets, Boolean algebra and propositional calculus, relations and databases, and directed and undirected graphics with applications to algorithms and networks.

PHIL 450, AI and Philosophy (3 credits)

Examines the most recent developments in artificial intelligence (AI) in relation to philosophical questions prompted by this far-reaching technology. What is mind and consciousness in human beings, and to what extent does AI have the potential to replicate these qualities? What are the most important ethical, legal, and political impacts raised by AI developments? The class guides students in thinking more clearly and systematically about how to address these and other philosophical questions related to AI. Students read a wide variety of classic and contemporary texts from diverse philosophical traditions. Course activities include extensive use of AI.

G.5. Discuss how general education requirements will be met, if applicable.

To become eligible for graduation, undergraduate students at The University of Baltimore are required to complete 38 credits of general education as well as five courses that meet graduation requirements criteria specified in the UBalt Learning Goals.

The categories included in the General Education group are the following:

- Arts & Humanities [AH] (6 credits)
- Upper-Division Ethics [UETH] (3 credits)
- Biological & Physical Sciences [BPS] (3 credits)
- Biological & Physical Sciences Lab [BPSL] (4 credits)
- English Composition [COMP] (3 credits)
- English Composition, Upper Division [UCOMP] (3 credits)
- Mathematics [MA] (3 credits)
- Social & Behavioral Sciences [SBS] (6 credits)
- General Education Electives [ELECGE] (7+ credits)

The categories included in the Graduation Requirements group are the following:

- Global Awareness and Diverse Perspectives [GD]
- Information Literacy [IL]
- Oral Communication [OC]
- Technological Fluency [TF]
- Capstone Experience

When designing the proposed program, we were mindful of such requirements and included the following courses, which also fulfill General Education requirements:

- MATH 115, which meets the Mathematics [MA] requirement
- AITC 270, which meets the General Education Electives [ELECGE] requirement

This allows students enrolled in the program to fulfill 6 credits towards their degree as well as their General Education requirements, leaving 32 credits for the student to fulfill by selecting courses of interest. We chose not to include other specific courses, as students should have the ability to complete courses in disciplines that are most appropriate to their personal, professional, or academic interests, as appropriate in an institution such as The University of Baltimore. This choice also helps students transferring into the University by accepting as many General Education courses as possible, and therefore reducing the number of credits necessary beyond the program requirements.

Regarding Graduation Requirements, the following courses required by the program meet those criteria:

- AITC 332, which meets the Global Awareness and Diverse Perspectives [GD] requirement
- GAME 324, which meets the Information Literacy [IL] requirement
- AITC 491, which meets the Oral Communication [OC] requirement

- AITC 151 and AITC 270, which meet the Technological Fluency [TF] requirement
- AITC 491, which meets the Capstone Experience requirement

As the Program includes courses that match each Graduation Requirement, the students have no further credit requirements associated with this category.

In summary, students are not overburdened by program requirements or general education requirements. The following list reports an overview of the calculations:

- Program requirements: 60 credits
- General Education requirements: 32 credits remaining
 - 6 credits are met by the Program requirements
- Graduation Requirements: 0 credits remaining
 - All the requirements are met within the program
- Electives: 28 credits
 - Students can complete one or more minors, take further AITC courses, or complete courses at their own will
 - Transfer students may not have to take any elective courses, as their incoming credits may count towards this group

G.6. Identify any specialized accreditation or graduate certification requirements for this program and its students.

Not applicable.

G.7. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

Not applicable.

G.8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

UBalt's website is a valuable resource that offers students a wealth of up-to-date information. This includes details about program curricula, course and degree requirements, expected technology competencies and skills for each degree, technical equipment prerequisites for courses, academic support services, available financial aid resources, comprehensive cost breakdowns, and payment policies. Additionally, students can access information about our state-of-the-art learning management system (LMS), Canvas, which serves as a vital platform for their educational journey.

Within Canvas, we provide a range of student tutorials to assist with LMS navigation, ensuring students can make the most of its features. Moreover, individual courses can offer resource materials through this platform, further enhancing the learning experience.

Our commitment to student success extends to ensuring accessibility. The University's Office of Disability and Access Services maintains a dedicated website and physical office with regular office hours. We also provide access to video and audio technologies to assist students who require accommodation.

The Division of Student Support and Access Services, along with the Bogomolny Library, offer a diverse array of academic and other support services. These encompass access to counseling resources, available 24/7, to address the various needs of our students and foster their overall well-being. The Office of the Dean will work with the website content manager to ensure that the B.S. in Artificial Intelligence for IT Operations curriculum is developed and regularly maintained. The catalog will be revised to reflect the new program requirements, and an updated Guide to Graduation for the B.S. in Artificial Intelligence for IT Operations will be provided. Information about course formats and technology assumptions, as well as any equipment requirements, will be available, as usual, to students in the course schedule. Each student will receive a syllabus that outlines student learning outcomes, course format, technology needs, and campus resources. These resources include the Office of Disability and Access Services, the Academic Support Center (which has a Writing Center), and the Office of Technology Services.

G.9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The program director will communicate with the College of Art and Sciences and university marketing departments to ensure that any marketing materials, such as program fact sheets, reflect the new curriculum. See above for information about the catalog and website. The catalog is updated annually and posted online, in addition to the routine program web page updates.

H. Adequacy of Articulation (as outlined in COMAR 13B.02.03.19)

H.1. If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.

Faculty in the proposed Program have already reached out to the Department of Computer Science, Data Science and Information Technology at the Community College of Baltimore County (CCBC) for articulation with their A.S. degrees in “Computer Science” and “Information Technology,” as well as their proposed degree in “Artificial Intelligence,” which is currently under review by MHEC. A letter of support from CCBC is attached to this document.

We intend to establish an articulation agreement with Baltimore City Community College to create a pathway to our Program from their “Information Technology” A.S. degree. We intend to include Reverse Transfer agreements with these Community Colleges to ensure that institutions are recognized for their work and students receive all the credentials that they have earned along their academic paths.

The Program is within the scope of Accelerated BS-MS programs within the University of Baltimore, as articulated by the University System of Maryland’s rules for Accelerated Programs. Under this Policy, an undergraduate student with a GPA of 3.5 or higher is allowed to take up to

9 graduate credits and double count them towards their graduate degree. The following graduate programs are candidates for acceleration:

- M.S. in Interaction Design & Information Architecture
- M.S. in Artificial Intelligence for Business
- M.S. in Cybersecurity Leadership
- M.S. in Cyber Forensics

I. Adequacy of Faculty Resources (as outlined in COMAR 13B.02.03.11).

I.1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

Faculty Member	Appointment Type	Field	Status	Terminal Degree	Academic Rank	Courses to be Taught
Giovanni Vincenti	Tenured	Applied Information Technology	Full-time	D.Sc.	Associate Professor	Computer Programming courses, AITC 270, AITC 356, AITC 372, AITC 375, AITC 470, AITC 471, AITC 475, AITC 491
Mohammed Ketel	Tenured	Applied Information Technology	Full-time	Ph.D.	Professor	AITC 310, AITC 317, AITC 332, AITC 375, AITC 470, AITC 475, AITC 491
Cory Newman	Contractual	Applied Information Technology	Full-time	M.S.	Lecturer	Computer Programming courses, AITC 270, AITC 372, AITC 471
Greg Walsh	Tenured	User Experience Design	Full-time	Ph.D.	Associate Professor	Computer Programming courses, AITC 270, GAME 324
Bridget Blodgett	Tenured	User Experience Design	Full-time	Ph.D.	Associate Professor	Computer Programming courses, AITC 270, GAME 324
Haitham Alkhateeb	Tenured	Mathematics	Full-time	Ph.D.	Professor	MATH 115, MATH 321
Steven Scalet	Tenured	Legal, Ethical and Historical Studies	Full-time	Ph.D.	Professor	PHIL 450

Joshua Kassner	Tenured	Legal, Ethical and Historical Studies	Full-time	J.D., Ph.D.	Professor	PHIL 450
Danielle Fowler	Tenured	Information Systems	Full-Time	Ph.D.	Associate Professor	INSS 350
Cong Zhang	Tenure-Track	Machine Learning and AI	Full-Time	Ph.D.	Assistant Professor	INSS 350

I.2. *Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:*

a) *Pedagogy that meets the needs of the students*

The University of Baltimore provides periodic training to its faculty on the use of the latest online and face-to-face teaching tools as well as professional development opportunities through attending national conferences and training, such as for example, Coursera, EdX, etc. In addition, the faculty is afforded opportunities to attend continuing professional education sessions through other providers of technical skills training, such as Coursera and Udemy.

b) *The learning management system (LMS)*

The University of Baltimore periodically provides necessary training in its Learning Management System, Canvas, through its Center for Excellence in Learning, Teaching and Technology (CELTT) as well as periodic quality reviews of the faculty's utilization of LMS.

c) *Evidenced-based best practices for distance education, if distance education is offered.*

Not applicable.

J. Adequacy of Library Resources (as outlined in COMAR 13B.02.03.12).

J.1. *Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.*

The program does not require additional library resources beyond those already provided by the University of Baltimore's Bogomolny Library, which provides an adequate level of access to relevant academic, peer-reviewed resources such as journals and conference proceedings.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined in COMAR 13B.02.03.13)

K.1. *Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences.*

The University of Baltimore’s current facilities provide excellent conditions for students in the proposed Program. Students will have access to two dedicated computer labs, currently in use exclusively to the Applied Information Technology program. The labs are utilized to teach courses in computer programming, cyber security, database systems, networking, and system administration. One lab is connected to the Internet, and the second is isolated from the University network to let students experience tools and techniques associated with cybersecurity. Both labs are equipped with high-end desktop systems, dedicated networking equipment, network-attached storage solutions, and four dedicated servers. We are currently working on a lab refresh that will include high-end hardware to facilitate the deployment of technologies and tools used in artificial intelligence.

The instructors’ stations in our classrooms are adequately equipped for face-to-face instruction, and they have up-to-date IT infrastructure. The University provides students with loaner laptops whenever they need them. The University of Baltimore provides every student with an email address, access to our learning management system (Canvas), and free access to Office 365 software (Word, Excel and PowerPoint). All faculty and credit-earning students are provided with an institutional e-mail account that integrates with the institution’s learning management system. We will use Canvas to deliver material that is supplemental to our face-to-face instruction, such as peer-reviewed articles, videos related to topics discussed during meetings, and step-by-step tutorials.

- K.2. *Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to:*
- a) *An institutional electronic mailing system, and*
 - b) *A learning management system that provides the necessary technological support for distance education*

Not applicable.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR13B.02.03.14)

- L.1. *Complete Table 1: Resources and Narrative Rationale. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.*

Table 1: Program Resources					
Resource Categories	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1. Tuition and Fee Revenue (c + g below)	\$103,960	\$163,389	\$214,322	\$266,795	\$320,856
a. Number of F/T students	5	8	10	12	14

b. Annual Tuition/Fee Rate	\$9,992	10144	10299	10457	10618
c. Total F/T Revenue (a*b)	\$49,960	\$81,150	\$102,986	\$125,479	\$148,647
d. Number of P/T students	10	15	20	25	30
e. Credit Hour Rate	450	457	464	471	478
f. Annual Credit Hours	12	12	12	12	12
g. Total P/T Revenue (d*e*f)	\$54,000	\$82,238	\$111,335	\$141,317	\$172,208

L.2. Complete Table 2: Program Expenditures and Narrative Rationale. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

Table 2: Program Expenditures					
Resource Categories	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1. Faculty (b + c below)	\$8,203	\$29,573	\$44,533	\$61,628	\$58,066
a. Number of FTE	0	0	0	0	0
b. Total Salary	\$7,600	\$27,400	\$40,600	\$57,100	\$53,800
c. Total Benefits	\$603	\$2,173	\$3,933	\$4,528	\$4,266
2. Admin Staff (b + c below)	\$0	\$0	\$0	\$0	\$0
a. Number of FTE	0	0	0	0	0
b. Total Salary	\$0	\$0	\$0	\$0	\$0
c. Total Benefits	\$0	\$0	\$0	\$0	\$0
3. Support Staff (b + c below)	\$0	\$0	\$0	\$0	\$0
a. Number of FTE	0	0	0	0	0
b. Total Salary	\$0	\$0	\$0	\$0	\$0
c. Total Benefits	\$0	\$0	\$0	\$0	\$0
4. Technical Support and Equipment	\$0	\$3,228	\$3,288	\$3,336	\$4,212
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$285	\$522	\$822	\$834	\$1,053
Total (Add 1 through 7)	\$8,488	\$33,323	\$48,643	\$65,798	\$63,331

This program can be offered with no new faculty and does not incur an additional cost.

M. Adequacy of Provisions for Evaluation of Program (as outlined in COMAR

13B.02.03.15).

M.1. Discuss procedures for evaluating courses, faculty and student learning outcomes.

The University has a shared governance process for curriculum approval. Both new courses and new programs are required to submit student learning outcomes (SLOs), which are then evaluated by faculty curriculum committees, plus staff in the deans' and provost's office.

The assessment of program student learning outcomes is faculty driven. Assessment generally occurs within courses, but assessment results are shared and evaluated within the Yale Gordon College of Arts and Sciences.

Faculty are evaluated annually by their supervisor and dean. In addition, policies for tenure-track and tenured faculty call for in-depth peer review at regular intervals.

All courses undergo student evaluation using the college-wide software tool Explorance Evaluations. Students complete evaluations of their course and the instructor at the end of each semester, using an online form. Data from these evaluations are incorporated in the annual chair's evaluation of faculty and are used in faculty promotion and tenure decisions.

M.2. Explain how the institution will evaluate the proposed program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.

Student learning outcomes are assessed over a two-year cycle using direct and indirect measures. The primary assessment measures are direct assessments administered within courses, evaluated by faculty, reviewed by programs, and affirmed by the Yale Gordon College of Arts and Sciences as a whole.

Retention is a key metric of the quality of our courses and faculty and retention data is reviewed on an ongoing basis, as are student evaluations of faculty. These evaluations have highlighted improvements that can be implemented across the curriculum in course delivery and feedback.

As we implement the new curriculum, we have created a new assessment plan. Embedded assessments will be deployed beginning in Fall 2025 for the new program goals and the faculty will use this data to drive curriculum improvement.

N. Consistency with the State's Minority Student Achievement Goals (as outlined in COMAR 13B.02.03.05).

N.1. Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

The University of Baltimore is a diverse institution, with an average undergraduate age of 30, and a majority-minority undergraduate population. Approximately 47 percent of UBalt students are African American and 32 percent white.

The University serves non-traditional students, which includes many working adults. UBalt's current strategic plan underlines the importance of diversity, equity, and inclusion, and one of the strategic goals is specifically to strengthen UBalt's commitment to these core values.

O. Relationship to Low Productivity Programs Identified by the Commission:

O.1. If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.

Not applicable.

P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)

P.1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.

Not applicable.

P.2. Provide assurance and any appropriate evidence that the institution complies with the C-RAC guidelines, particularly as it relates to the proposed program.

Not applicable.



CCBC

Community College
of Baltimore County

443-840-CCBC (2222)

CCBC Catonsville

800 South Rolling Road
Baltimore, Maryland
21228

CCBC Dundalk

7200 Sollers Point Road
Baltimore, Maryland
21222

CCBC Essex

7201 Rossville Boulevard
Baltimore, Maryland
21237

CCBC Hunt Valley

11101 McCormick Road
Suite 100
Hunt Valley, Maryland
21031

CCBC Owings Mills

10300 Grand Central Avenue
Owings Mills, Maryland
21117

**CCBC Randallstown
at The Liberty Center**

3637 Offutt Road
Randallstown, Maryland
21133

*The incredible value
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www.cbcmd.edu

October 5, 2024

Dear Dr. Vincenti,

I am writing to express that the Computer Science / Information Technology Department (CSIT) at the Community College of Baltimore County (CCBC) enthusiastically supports the University of Baltimore's new proposed Artificial Intelligence for IT Operations (AIOps) program. We are excited about this program's opportunities and believe it aligns closely with our academic initiatives and strategic goals.

You introduced us to your AI program, and after reviewing its curriculum and objectives, it is evident that there is significant potential for collaboration between our institutions. CCBC has been working to expand its course offerings and degree programs, including AI and data science. Our upcoming AI program will equip students with the skills and knowledge necessary to excel in this rapidly evolving sector.

There is a clear opportunity for articulation between CCBC and the University of Baltimore, allowing our students in Computer Science, Information Technology, and the forthcoming AI programs to transition into your advanced courses. This articulation will enhance the educational pathways available to our students and strengthen the partnership between our institutions, fostering a collaborative environment for innovation and excellence in AI. CCBC is committed to supporting the University of Baltimore's AI program and looks forward to exploring further avenues for cooperation and mutual growth.

We are excited about the potential collaboration and its positive impact on our students and the field of artificial intelligence.

Sincerely,

Wendy Chin

Wendy Chin
Department Chair
Computer Science Department
Community College of Baltimore County
800 S. Rolling Rd Catonsville, MD 21228
wchin@cbcmd.edu



TOPIC: University of Baltimore proposal for a Master of Science (MS) degree in User-Centered Cybersecurity

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: The University of Baltimore seeks approval to introduce a new program, the MS in User-Centered Cybersecurity. This proposed program addresses critical societal needs by advancing the concept of usable security. Traditional cybersecurity solutions often overlook the usability of security tools and systems, particularly for minority and educationally disadvantaged populations, who may not have been considered in the initial design phases of these technologies. By integrating human-centered design into cybersecurity, this program seeks to create systems that are not only secure but also intuitive and user-friendly.

This 30-credit master's program equips professionals with the knowledge and skills to design and implement cybersecurity systems that are not only secure, but also focused on the user experience. Program learning outcomes focus on human-centered security design, research and evaluation, data-driven decision-making, ethical and accessible design, and security usability testing and iteration. By focusing on both technical skills and an understanding of human behavior and interaction, graduates will be better prepared to create systems that users can easily adopt, reducing the risk of security breaches caused by human error. This can create more equitable and inclusive digital environments, making cybersecurity more effective and accessible for everyone.

ALTERNATIVE(S): The Regents may not approve the program or may request further information.

FISCAL IMPACT: No additional funds are required. The program can be supported by the projected tuition and fee revenue.

CHANCELLOR'S RECOMMENDATION: That the Education Policy and Student Life and Safety Committee recommend that the Board of Regents approve the University of Baltimore proposal for an MS in User-Centered Cybersecurity.

COMMITTEE RECOMMENDATION:

DATE: December 3, 2024

BOARD ACTION:

DATE:

SUBMITTED BY: Alison M. Wrynn 301-445-1992

awrynn@usmd.edu



November 12, 2024

Jay A. Perman, M.D. Chancellor
University System of Maryland
3200 Metzgerott Road
Adelphi, MD 20783-1690

Dear Dr. Perman:

The University of Baltimore is proposing a new Master of Science in User-Centered Cybersecurity (proposed CIP 11.0105 and proposed HEGIS code 0705.00). This is a 30-credit program that will prepare graduates for roles in cybersecurity and user experience design, given the increasing demand for professionals who can design secure systems that are both effective and user-friendly.

The proposed master's program will equip professionals with the knowledge and skills to design and implement cybersecurity systems that are not only secure but also user-friendly. By focusing on both technical skills and an understanding of human behavior and interaction, graduates will be better prepared to create systems that users can easily adopt, reducing the risk of security breaches caused by human error. As cybersecurity threats continue to evolve, there is a clear need for professionals who can bridge the gap between technical security measures and real-world user behavior, making this program a critical addition to the field.

If you have any questions, please contact Aaron Wachhaus at 410-837-6113 or awachhaus@ubalt.edu.

Sincerely,

p.p. Aaron Wachhaus, Associate Provost - Academic Affairs
Ralph O. Mueller, Senior Vice President and Provost

Encl.

cc: Dr. Candace Caraco, Associate Vice Chancellor for Academic Programs, Academic & Enrollment Services and Articulation

UNIVERSITY SYSTEM OF MARYLAND INSTITUTION PROPOSAL FOR

- New Instructional Program
- Substantial Expansion/Major Modification
- _____ Cooperative Degree Program
- Within Existing Resources, or
- _____ Requiring New Resources
- _____

University of Baltimore

_____ Institution Submitting Proposal

MS in User-Centered Cybersecurity Program

_____ Title of Proposed Program

Master's Degree

_____ Award to be Offered

Fall 2025

_____ Projected Implementation Date

0705.00

_____ Proposed HEGIS Code

11.0105

_____ Proposed CIP Code

Yale Gordon College of Liberal Arts & Sciences

Department in which program will be located

Greg Walsh

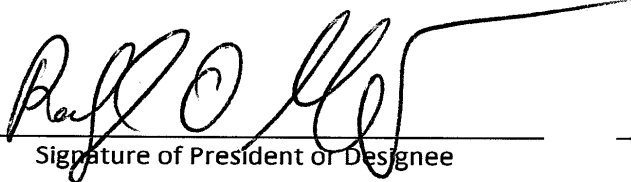
Department Contact

410-837-5473

Contact Phone Number

gwalsh@ubalt.edu

Contact E-Mail Address


Signature of President or Designee

11/11/2024

User-Centered Cybersecurity Program Proposal

A. Centrality to Institutional Mission and Planning Priorities

Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

As technology increasingly permeates every aspect of our lives, ensuring the secure use of digital systems has become a pressing concern. Despite advances in technical security measures, human error and usability issues remain significant cyber-attack vulnerabilities. This gap is because humans are often unaware of their vulnerabilities or fail to follow best practices due to poorly designed interfaces and systems. To effectively mitigate these risks, technology professionals must develop an understanding of the people they serve – their needs, behaviors, and limitations. By incorporating user-centered design principles into cybersecurity topics, we can empower professionals with the knowledge and skills to create more secure, usable technologies.

The University of Baltimore's mission statement emphasizes our commitment to providing career-focused education for both aspiring and current professionals. This approach ensures the region benefits from highly educated leaders who contribute significantly to the broader community. The landscape of government, industry, and education-related cybersecurity issues continues to expand due to the ever-increasing integration of technology into all sectors. Our proposed program, with its potential to equip individuals with the essential skills to apply usability and user-centered design techniques effectively in the field of information technology and cybersecurity, could have a significant impact on the region and reinforce Maryland's leadership role in these fields and has been designed with consultation from public and private sector professionals.

The Master of Science in User-Centered Cybersecurity is closely aligned with the University of Baltimore's mission to provide career-focused education that prepares professionals for meaningful contributions to the workforce and community. This program is designed to address the increasing demand for cybersecurity professionals who not only possess technical expertise but also understand the human factors that influence cybersecurity risks. By emphasizing user-centered design principles and usability in security systems, the program ensures that graduates can design solutions that are both effective and accessible to end users.

The University of Baltimore is dedicated to serving the needs of the broader community by producing highly educated leaders who can contribute to regional and national industries. With Maryland being a hub for cybersecurity, the need for professionals who can bridge the gap between technical security measures and human behavior is crucial. This program will help the institution fulfill its mission by preparing students to enter the workforce with a specialized skill set that is highly relevant to current industry needs. As

technology continues to permeate all sectors, cybersecurity professionals must develop solutions that account for both technical vulnerabilities and user behaviors, which is a key focus of this program.

The program supports several key goals outlined in Maryland's State Plan for Higher Education, particularly in the areas of access, success, and innovation. The plan emphasizes the importance of providing equitable access to high-quality, affordable education, and the University of Baltimore's cybersecurity program is designed with this in mind. The dual-modality format, offering both in-person and online courses, makes the program accessible to a wider range of students, including working professionals and those from underserved populations. This approach aligns with the state's goal of increasing access to education for all Maryland residents.

Additionally, the program contributes to the success of the state plan by equipping students with the practical skills necessary for career advancement. By focusing on usability and user-centered design in cybersecurity, the program ensures that graduates are prepared to meet the challenges of an evolving industry and excel in their careers. The state plan also highlights the need for innovation in education to keep pace with workforce needs, and this program addresses this by offering a unique focus on the human elements of cybersecurity. This innovative approach positions the University of Baltimore as a leader in cybersecurity education and directly supports the state's goal of fostering cutting-edge academic programs that prepare students for the jobs of the future.

The Master of Science in User-Centered Cybersecurity is not only a critical addition to UBalt's academic offerings but also a vital contribution to Maryland's broader higher education landscape. By addressing a growing need in both the regional and national cybersecurity sectors, the program helps fulfill both the institution's mission and the state's objectives for advancing education, workforce development, and community engagement.

Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

The proposed Master of Science in User-Centered Cybersecurity directly supports the University of Baltimore's strategic goals, particularly those outlined in its mission and strategic plan. UBalt's strategic priorities emphasize career-focused education, community engagement, and leadership development, all of which are at the core of this program.

First, the university's strategic goal to provide career-focused education is realized through this program's alignment with the growing needs of the cybersecurity industry. The program is designed to equip students with the specialized skills necessary to succeed in the rapidly expanding field of cybersecurity. As Maryland is a hub for technology and cybersecurity, there is a growing demand for professionals who not only understand technical security measures but also how usability and human factors influence security vulnerabilities. By preparing students to address these challenges, the

program ensures that UBalt remains a leader in providing relevant, future-focused education.

Second, the program supports the institution's goal of community and civic engagement by responding to the cybersecurity needs of both the public and private sectors. Maryland, as a leader in the cybersecurity field, requires professionals who can contribute to securing digital systems across multiple sectors, including government, healthcare, and education. The program's focus on user-centered design in cybersecurity addresses the human factors that can be exploited in cyber-attacks, ensuring that graduates are not only technically proficient but also able to engage with and serve the community by improving the security and usability of systems that affect everyday users. This aligns with UBalt's commitment to producing graduates who can make a positive impact on their communities.

Furthermore, the university's strategic priority of developing leaders who can thrive in their fields is central to this program. The Master of Science in User-Centered Cybersecurity is designed to produce graduates who are not just capable of following industry trends but also leading innovation in the field. By focusing on both usability and technical security, the program produces professionals who can bridge the gap between cybersecurity and user experience, making them highly valuable in leadership roles within organizations.

There is evidence that this program is an institutional priority, demonstrated by its alignment with UBalt's long-term focus on technology-driven education and workforce development. The university has a strong history of offering programs in interaction design and information architecture, as well as a Bachelor's in Applied Information Technology, all of which have been integral to serving the region's technology workforce. The development of this new graduate program is a natural extension of the university's commitment to advancing education in fields that meet the evolving needs of the community and industry.

Additionally, the program proposal has been developed in consultation with both public and private sector professionals, further affirming its alignment with industry needs and its priority status within the institution. This collaborative development ensures that the program is not only aligned with UBalt's strategic goals but also meets the demands of the current job market, making it a high-priority initiative for the university.

By supporting UBalt's strategic goals of career readiness, community impact, and leadership development, the Master of Science in User-Centered Cybersecurity positions the university as a leader in innovative education, directly aligning with its mission and long-term strategic objectives.

Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation.

The program, in its current configuration, will be managed by our existing faculty lines, thereby eliminating the need for additional resources in terms of new faculty hires. Our current faculty members possess the capability to effectively instruct within the program, as we can reassign them from other programs as needed. Furthermore, we are prepared to leverage adjunct faculty members as needed to ensure the program's successful delivery. Please find detailed financial information in Section L of this proposal.

Provide a description of the institution's commitment to:

a) ongoing administrative, financial, and technical support of the proposed program

The program's needs will be met within the capacity of the existing faculty's teaching loads. To the extent necessary, overload compensation will be utilized.

b) continuation of the program for a period of time sufficient to allow enrolled students to complete the program.

We are committed to offering the program as long as reasonably necessary to build sufficient and sustainable enrollments.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan

Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:

a) The need for the advancement and evolution of knowledge

The need for a master's program in user-centered cybersecurity is supported by the evolving requirements in the field and the increasing demand for cybersecurity professionals equipped with user-centered design expertise. Maryland, for example, had over 30,000 cybersecurity job openings in 2023, but there was a significant skills gap, with one in four positions going unfilled. The Maryland Department of Labor has actively invested in innovative training approaches, including cyber ranges that provide hands-on experience, which employers value highly. This highlights the critical need for advanced education programs that can produce well-trained professionals who meet the market's demand for skills in cybersecurity (Maryland Department of Labor, 2024).

Moreover, there is a broader national and global trend recognizing the importance of integrating human-centered design into cybersecurity to ensure security systems are not only technically robust but also usable and effective for a diverse range of users. Research indicates that traditional cybersecurity tools are often overly complex and do not adequately account for the human element, which can result in security breaches due to user error or frustration (Morris, 2024). Addressing this through education in user-

centered cybersecurity will equip graduates with the knowledge to design systems that align with how people interact with technology, reducing the likelihood of user-induced vulnerabilities (Haney, 2023).

Recently, NIST changed the name of its *Usable Cybersecurity* program to *Human-Centered Cybersecurity* to better reflect the broader scope of its work beyond usability. This renaming highlights a shift in focus to encompass the entire spectrum of human interactions with cybersecurity systems, including not just usability but also how social, organizational, and technological factors impact cybersecurity. NIST recognized that usability, while critical, is just one piece of the puzzle; a more holistic approach is needed to ensure security systems are effective when interacting with people at every level (Haney, 2023).

The name change underscores the growing recognition that cybersecurity is not just a technical issue but also a human one. This reflects the core need for a program like the proposed *Master of Science in User-Centered Cybersecurity*, which is designed to train professionals to focus on the human aspects of security systems. As NIST's shift indicates, there is an increasing demand for cybersecurity professionals who understand human behavior and can design systems that are secure and user-friendly. The change from "usable" to "human-centered" signals that future cybersecurity efforts must integrate broader human factors, such as cognitive science and social influences, into the design and implementation of security measures.

By emphasizing human-centered design, the proposed program would align with NIST's evolved approach, preparing graduates to address not just usability but the wider range of human factors that impact cybersecurity. This shift illustrates a critical gap in the current training and workforce, where many professionals are technically proficient but lack the skills to design systems that effectively account for human behavior, compliance, and the overall user experience. Therefore, NIST's change reflects an industry-wide recognition of the need for educational programs that focus on human-centered cybersecurity, reinforcing the relevance and importance of your proposed program.

Aurora Infosec, a New Zealand cybersecurity consulting firm argues that **human-centered design** needs to become central to cybersecurity. Their article “**The Future of Cybersecurity: Human-Centred Design**” emphasizes that effective security systems must account for how users interact with technology, prioritizing ease of use to reduce human errors. as this approach directly addresses the core issue of how people interact with security systems. Rather than solely focusing on technical defenses, the human-centered approach aims to design technology that aligns with human behavior, making security systems more intuitive and user-friendly. This shift is critical because many security breaches result not from technical failures but from human errors—82% of breaches involve the human element, such as social engineering attacks, mistakes, or misuse (Petrescu, 2023).

One of their key arguments is that the traditional approach to cybersecurity, which often focuses on changing user behavior through training and awareness programs, is

insufficient. Instead, a more effective long-term solution is to design security systems that are inherently easier for users to navigate and interact with. By applying **human-centered design** principles throughout the software development lifecycle (SDLC), organizations can create security features that are both intuitive and robust. This minimizes the likelihood of user errors, reduces friction between users and security protocols, and ultimately strengthens the overall security posture of organizations (Petrescu, 2023).

Additionally, their article outlines how using behavioral science to influence user behavior—while helpful—is not enough to manage human risks effectively. Instead, security systems must be designed to work with human limitations and cognitive biases, ensuring that users can comply with security protocols without needing extensive training or experience (Petrescu, 2023). This reflects a significant shift in the cybersecurity industry, where the emphasis is moving away from trying to "fix" user behavior and towards building systems that are secure by design and account for human interaction from the outset.

Incorporating **human-centered design** in cybersecurity also tackles the issue of "security fatigue," where users become overwhelmed by complex or intrusive security measures, leading them to circumvent protocols. By making security features more intuitive and reducing the cognitive load on users, human-centered design can reduce these risks (Petrescu, 2023).

Given this clear demand for skills and the state's investment in closing the workforce gap, a master's degree in user-centered cybersecurity would not only meet present needs but also prepare for future challenges in the region and beyond. This advancement in knowledge is critical to addressing both the technical and human factors in cybersecurity, ensuring long-term security solutions that are both effective and usable.

b) Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education

As a primarily Black institution (PBI), the University of Baltimore is uniquely positioned to offer students educational pathways that can significantly enhance their social mobility and career opportunities. By providing access to a specialized program like the master's in user-centered cybersecurity, the university can empower students from historically underrepresented communities to enter a high-demand field. Cybersecurity is a rapidly growing industry with excellent job prospects, and equipping students with the skills to design systems that are both secure and usable positions them for leadership roles in the sector. This not only provides graduates with greater earning potential but also helps bridge the digital divide by fostering diversity in an industry that urgently needs it. Through this program, students can gain cutting-edge skills, opening doors to advanced career opportunities while contributing to a more inclusive and equitable workforce.

The proposed master's program in user-centered cybersecurity addresses critical societal needs by advancing the concept of usable security, which focuses on creating more inclusive and equitable digital experiences. Traditional cybersecurity solutions often overlook the usability of security tools and systems, particularly for minority and educationally disadvantaged populations, who may not have been considered in the initial design phases of these technologies. This oversight has contributed to a digital divide, where marginalized groups may struggle with complex security measures that are not user-friendly or accessible (Haney, 2023)(Adams & Sasse, 1999).

Usable security is an essential component of ensuring that all individuals, regardless of their background or level of technical expertise, can engage with cybersecurity in meaningful ways. By integrating human-centered design into cybersecurity, this program seeks to create systems that are not only secure but also intuitive and user-friendly. This approach addresses the barriers that many underserved groups face in adopting secure behaviors, such as managing passwords or identifying phishing attempts, which are often designed without their needs in mind (Morris, 2024) (Science of Security Virtual Organization, n.d.).

Maryland has already recognized the importance of fostering diversity in the cybersecurity workforce. The state's commitment to developing educational programs that reach underrepresented populations, including women, people of color, and individuals with differing abilities, aligns perfectly with the goals of this program. By providing students from these groups with the skills needed to succeed in cybersecurity, the program contributes to a more diverse workforce, which is essential for designing security solutions that reflect the needs of all users.

Ultimately, this program will not only meet the technical and workforce needs of the state but also play a key role in addressing societal inequities by ensuring that cybersecurity systems are accessible to all. Through a focus on usable security and human-centered design, graduates will be equipped to create more equitable and inclusive digital environments, making cybersecurity more effective and accessible for everyone.

Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.

The creation of a Master's in User-Centered Cybersecurity aligns well with the goals of the Maryland State Plan for Postsecondary Education by addressing the state's need for a highly skilled, diverse workforce. Maryland is a national hub for cybersecurity, with significant job openings that remain unfilled due to a shortage of qualified professionals. The program's focus on user-centered cybersecurity directly responds to this gap by ensuring that graduates are prepared to meet the state's growing demand for cybersecurity experts who can design and implement security solutions that are accessible and effective for all users, including underrepresented populations (U.S. Bureau of Labor Statistics, 2024b).

Furthermore, the Maryland Department of Labor emphasizes the importance of developing inclusive training programs that provide opportunities for populations typically underrepresented in cybersecurity, including women and people of color. This focus on equitable training aligns with the goals of the Maryland State Plan, which advocates for expanding educational opportunities and career pathways for minority and disadvantaged students. The user-centered approach of the proposed master's program ensures that cybersecurity solutions are designed with diverse user needs in mind, thereby fostering inclusion and equity in the field (Morris, 2024).

Additionally, a user-centered cybersecurity masters program aligns with several specific priorities outlined in the Maryland State Plan:

Priority 5: Maintain the commitment to high-quality postsecondary education: By providing students with a comprehensive understanding of cybersecurity principles and practices, a user-centered cybersecurity masters program can help maintain the quality of higher education in Maryland.

Priority 7: Enhance the ways postsecondary education is a platform for ongoing lifelong learning: A user-centered approach encourages continuous learning and professional development, which aligns with this priority.

Priority 8: Promote a culture of risk-taking: By encouraging students to think creatively and develop innovative solutions to cybersecurity challenges, a user-centered cybersecurity masters program can promote a culture of risk-taking.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State

1. Describe potential industry or industries, employment opportunities, and expected level of entry (ex: mid-level management) for graduates of the proposed program.

We expect our graduates to be employed in a variety of industries that rely on cybersecurity professionals, including federal, state, and local government, public institutions, and private industry. Cybersecurity is a critical concern across sectors, from financial services, healthcare, and education to telecommunications and retail. Maryland, in particular, has a high demand for cybersecurity professionals due to its proximity to government agencies and tech-focused private sectors.

Graduates will be particularly well-suited for roles in cybersecurity and user experience design, given the increasing demand for professionals who can design secure systems that are both effective and user-friendly. They may find employment as **Information Security Analysts**, **User Experience (UX) Designers** focused on secure interfaces, and **Computer Network Architects** who are tasked with building secure data

communication networks. These roles often exist in industries like defense, financial services, healthcare, and IT consulting.

Given their specialized knowledge in usability and human-centered design, we expect graduates to enter the workforce in mid-level positions, such as **security analysts, cybersecurity consultants, or UX security designers**. Over time, their unique expertise may allow them to move into management roles, such as **cybersecurity project managers or user-centered security leads** within organizations.

With cybersecurity-related jobs projected to grow significantly, including a 35% increase in the number of **Information Security Analysts** (U.S. Bureau of Labor Statistics, 2024a), and with Maryland having one of the highest concentrations of cybersecurity professionals (U.S. Bureau of Labor Statistics, 2024b), we anticipate that our graduates will be highly competitive in the job market. The annual mean wage for cybersecurity roles in Maryland is around \$138,000, providing significant financial incentives for professionals in this field (U.S. Bureau of Labor Statistics, 2024b)(U.S. Bureau of Labor Statistics, 2024).

Moreover, as organizations increasingly recognize the need for systems that prioritize the user experience without compromising security (Haney, 2023)(Morris, 2024)(Petrescu, 2023), graduates will be in high demand for their ability to bridge the gap between technical security measures and human usability, ensuring that systems are secure and intuitive.

2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

Based on comprehensive analysis and alignment between cybersecurity roles and their corresponding Bureau of Labor Statistics (BLS) codes, several key positions in the cybersecurity field necessitate training in User-Centered Design (UCD) due to their direct impact on user interaction with systems and security protocols. These positions include:

- **Cyber Defense Analyst, Cyber Defense Forensics Analyst, Incident Responder, Security Architect, Systems Security Analyst, and Vulnerability Assessment Analyst**, mapped to BLS code **15-1212: Information Security Analysts**.
- **Information Systems Security Manager, IT Project Manager, and Cyber Policy and Strategy Planner**, mapped to BLS code **11-3021: Computer and Information Systems Managers**.
- **Systems Requirements Planner**, mapped to BLS code **15-1211: Computer Systems Analysts**.
- **Software Developer and Systems Developer**, mapped to BLS code **15-1252: Software Developers**.

Professionals in these roles are responsible for designing, implementing, or managing security systems that impact end users. As cybersecurity threats continue to evolve, UCD training becomes imperative for equipping these professionals with the necessary skills to

create intuitive and user-friendly solutions, reducing the risk of user errors and enhancing security.

Demand in Maryland and the MD-VA-DC-WV Region:

According to the May 2023 **Occupational Employment and Wage Statistics (OEWS)**, Maryland has one of the highest concentrations of **Information Security Analysts**, with a **location quotient of 2.55** (indicating a demand 2.55 times the national average)(U.S. Bureau of Labor Statistics, 2024). The surrounding region, including Washington, D.C., Virginia, and West Virginia, shows an even greater concentration, with a **location quotient of 4.66** (U.S. Bureau of Labor Statistics, 2024c). This suggests a significant demand for cybersecurity professionals in the region, particularly in roles that require UCD training.

Furthermore, in Maryland alone, there are approximately **7,890 Information Security Analysts**, with an annual mean wage of **\$138,180** (U.S. Bureau of Labor Statistics, 2024b) (U.S. Bureau of Labor Statistics, 2024). Similarly, **Computer Network Architects**—who are also responsible for designing secure networks—are in high demand, with an average annual wage of **\$151,840** (U.S. Bureau of Labor Statistics, 2024a). These data underscore the lucrative opportunities available for professionals equipped with UCD expertise in the cybersecurity sector.

BLS Job Title	Common Job Titles	Maryland Need	MD-VA-DC-WV
15-1212 Information Security Analysts	<ul style="list-style-type: none"> • Adversary Emulation Specialist (Red Team) • Cyber-defense Analyst (Blue Team) • Information Systems Security Manager • Vulnerability Assessment Analyst • Security Architect 	2.55	4.66
15-1252 Software Developers	<ul style="list-style-type: none"> • Systems Developer 	1.05	2.13
15-1211 Computer Systems Analysts	<ul style="list-style-type: none"> • Secure Software Assessor 	1.57	1.76

11-3021 Computer and Information Systems Managers	<ul style="list-style-type: none"> • Systems Requirements Planner 	1.30	1.55
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The projected growth for **Information Security Analysts** nationally is expected to be **35% from 2022 to 2032**, significantly faster than the average for all occupations (U.S. Bureau of Labor Statistics, 2024). Given the concentration of cybersecurity positions in the Maryland region, this trend will likely be mirrored locally. Similarly, roles such as **Computer Systems Analysts, Software Developers, and IT Project Managers** are also expected to experience substantial growth due to the increasing complexity of cyber threats and the need for secure, user-friendly systems (U.S. Bureau of Labor Statistics, 2024a).

UCD training is vital for these professionals to design security measures that users can easily adopt and adhere to, which not only enhances security compliance but also reduces the likelihood of security breaches resulting from user errors (Petrescu, 2023)(Morris, 2024). In fields such as financial services, healthcare, and government, where secure and intuitive interfaces are critical, UCD expertise will provide a competitive edge for professionals and enhance overall system security (Haney, 2023)(Petrescu, 2023).

The importance of a *Master of Science in User-Centered Cybersecurity* stems from the growing recognition that traditional cybersecurity measures often overlook the human element, which plays a crucial role in the effectiveness of security systems. As highlighted in the data, cybersecurity tools are typically designed by technical professionals for other technical users, leading to complex systems that are difficult for the average user to navigate. This complexity results in frequent user errors, non-compliance with security protocols, and even intentional workarounds that compromise security (Hielscher et al., 2023)(Morris, 2024).

Research from NIST and other cybersecurity organizations emphasizes the need for systems designed with usability in mind. A lack of usability in cybersecurity systems leads to frustration, errors, and reduced adoption of necessary security measures (Haney, 2023). This gap between system complexity and user needs has been identified as a significant vulnerability, with 82% of breaches involving the human element, such as social engineering attacks and user errors (Petrescu, 2023). Moreover, the cybersecurity industry is beginning to realize that addressing human interaction with security systems through human-centered design is essential to reducing risks and ensuring that security measures are not just effective in theory but also in practice (Zurko & Simon, 1996).

Despite the growing awareness of these issues, many cybersecurity professionals still lack the training and tools necessary to implement user-centered design principles into their systems. As studies on security managers indicate, even when security friction—where security measures interfere with work—is recognized, professionals are often unable to resolve it due to a lack of usable security tools and a focus on compliance with

technical standards rather than human usability (Hielscher et al., 2023). This gap between usability and security has created an urgent need for cybersecurity professionals trained specifically in human-centered design.

The proposed master's program directly addresses these gaps by equipping professionals with the knowledge and skills to design and implement cybersecurity systems that are not only secure but also user-friendly. By focusing on both technical skills and an understanding of human behavior and interaction, graduates will be better prepared to create systems that users can easily adopt, reducing the risk of security breaches caused by human error (Haney, 2023)(Morris, 2024). As cybersecurity threats continue to evolve, there is a clear need for professionals who can bridge the gap between technical security measures and real-world user behavior, making this program a critical addition to the field.

D. Reasonableness of Program Duplication

D.1 Similar programs in the State and/or same geographical area.

While numerous graduate programs in the state offer degrees in cybersecurity, these programs typically focus on the technical aspects of the field, such as encryption, network defense, and threat analysis. However, as cyber threats become more sophisticated, the role of human behavior and system usability in maintaining security has become increasingly evident. Despite this growing awareness, no existing cybersecurity programs in Maryland explicitly integrate user-centered design principles—critical for addressing the usability challenges that lead to security vulnerabilities.

There are a number of degree programs in Maryland that use the word “Cybersecurity” in their title. While the idea of cybersecurity is popular within the state, the concept of User-centered Cybersecurity is novel. We have compiled a list of the graduate programs and courses that may focus on User-Centered Design in Table 1. To determine if a course focused on or mentioned user-centered design, we read each program’s course description and looked for instances of “usability”, “user-centered design”, “human-centered design”, or “human-centered interaction”.

Table 1
Graduate degree programs in Maryland that have "Cybersecurity" in the title.

Institution	Degree Name	UCD Related Courses
Capitol Technology University	Master of Science in Cybersecurity	None
Hood College	Master of Science in Cybersecurity	None
Johns Hopkins University	Master of Science in Security Informatics	None
University of Maryland, Baltimore County	Master of Science in Cybersecurity	None

University of Maryland, Global Campus	Master of Science in Cybersecurity	None
University of Maryland, College Park	Master of Engineering in Cybersecurity	None

As user experience and human-centered design have gained prominence in various fields, several graduate programs in Maryland now offer degrees focused on enhancing usability and user interaction with technology. These programs, which emphasize user-centered design, human-computer interaction, and interaction design, prepare students to create intuitive, accessible, and effective digital experiences. However, in reviewing these curricula, it becomes evident that they often overlook the critical area of cybersecurity. In an era where security breaches can have severe consequences for both users and organizations, ensuring that digital systems are both user-friendly and secure is paramount. Despite their focus on the human element of technology, these programs rarely address the security implications of poor design, leaving a significant gap in their approach. The following analysis examines these user-centered design programs and highlights the absence of courses that integrate cybersecurity principles into their curricula.

We analyzed graduate programs that focus on Human-Computer Interaction, Human-Centered Design, or Interaction Design. Table 2 presents the programs in Maryland that have some proximity to user-centered design and the courses they offer in cybersecurity. To determine if a course focused on cybersecurity or contained some aspect of it, we read each program’s course description and looked for instances of “cybersecurity”, “security”, or “threat”.

Table 2
User-centered design-focused programs and cybersecurity courses they offer.

Institution	Degree Name	Cybersecurity Related Courses
University of Maryland, College Park	Master of Science in Human-Computer Interaction	None
MICA	Master of Professional Studies in User Experience Design	None
University of Maryland, Baltimore County	Master of Science in Human-Centered Computing	None
Loyola University of Maryland	Master of Arts in Emerging Media	ME 601.W01: Exploring Digital Culture

The analysis of graduate programs in Maryland reveals a significant gap in both cybersecurity and user-centered design education. Traditional cybersecurity programs focus heavily on technical skills but fail to address the critical role of usability and human-centered design in creating secure systems that people can actually use. On the other hand, programs centered on user experience and human-computer interaction emphasize designing for users but often neglect the essential security concerns that are increasingly central to digital interactions. The University of Baltimore's Master of Science in User-Centered Cybersecurity uniquely bridges this divide, offering a forward-thinking curriculum that combines the strengths of both disciplines. By equipping graduates with expertise in both cybersecurity and user-centered design, this program addresses a growing demand for professionals who can design secure, user-friendly systems. In doing so, it positions the University of Baltimore at the forefront of innovative cybersecurity education and fills an important void in the current academic landscape.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

According to the current MHEC Program Inventory, none of the HBIs in the State currently offer graduate degrees in user-centered cybersecurity. Thus, we do not expect any impact on high-demand HBI programs.

F. Relevance to the Identity of Historically Black Institutions (HBIs)

We expect no effect on the uniqueness, institutional identities, and missions of HBIs since none of the HBIs in the State currently provide graduate programs that emphasize user-centered cybersecurity.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes

Describe how the proposed program was established, and also describe the faculty who will oversee the program.

Faculty interviewed industry, government, and education leaders and discovered the lack of user-centered knowledge among existing security professionals. The program will be offered by the Yale Gordon College of Arts and Sciences, home of the MS in Interaction Design and Information Architecture and the BS in Applied Information Technology. Our College's experience in these subjects comes from offering both information technology, cybersecurity, and user-centered design programs to students in the region for over 20 years. It is from these programs that the faculty overseeing the program will be chosen.

Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

There are five learning outcomes for this program. These learning outcomes focus on human-centered security design, research and evaluation, data-driven decision-making, ethical and accessible design, and security usability testing and iteration.

1. **Human-Centered Security Design:** Graduates will apply psychological, physiological, and cognitive principles of human behavior to design, develop, and evaluate secure, usable interfaces that align with user needs and security requirements.
2. **Research and Evaluation:** Graduates will design, conduct, and critically evaluate research studies—including diary studies, surveys, and usability tests—to gather data that informs security and usability improvements in cyber systems.
3. **Data-Driven Decision Making:** Graduates will prioritize and communicate user research findings based on their impact on users, strategic goals, and security implications, ensuring decisions are grounded in comprehensive data analysis.
4. **Ethical and Accessible Design:** Graduates will integrate ethical, legal, and accessibility considerations into the development of secure systems, ensuring inclusivity while adhering to privacy and security standards such as GDPR and CCPA.
5. **Security Usability Testing and Iteration:** Graduates will conduct user-centered testing and iteratively improve cybersecurity solutions by identifying usability pitfalls, leading questions, and human behavioral patterns that affect security.

Explain how the institution will:

a) provide for assessment of student achievement of learning outcomes in the program

Program goals have been mapped across all courses in the curriculum and assessments for each competency and goal occur within courses. Rubrics are developed by the department and used to assess artifacts collected by faculty bi-annually. Departmental assessment meetings discuss ways to improve student outcomes across the curriculum and improvements are not limited to the courses where the assessment occurs.

b) document student achievement of learning outcomes in the program

As described above, assessment is a faculty-driven cycle of continuous improvement. While assessment results document student achievement, they are also used to drive curriculum change.

Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.

The total number of credits for this program is 30. Students will take 12 credits of security-focused courses and 12 credits of usability-focused credits. Students will also take six credits of electives from a defined list.

Required Security Courses (12 credits):

Course Number	Title	Credits
AITC 670	Usable Security and Privacy	3
IDIA 672	Human Factors in Security Design	3
AITC 676	Documentation and Testing for Usable Security	3
AITC 674	Requirements Elicitation and UX	3

Required Usability Courses (12 credits):

Course Number	Title	Credits
IDIA 660	Usability and Accessibility in Cybersecurity	3
IDIA 662	Designing for Security	3
IDIA 640	Human Computers and Cognition	3
IDIA 642	Applied User Research for UX	3

Electives (6 credits):

Course Number	Title	Credits
IDIA 630	Information Architecture	3
IDIA 612	Interaction Design	3
IDIA 712	Advanced Interaction Design	3
IDIA 740	Topics in Computers and Cognition	3
IDIA 742	Topics in Advanced User Research	3

Course Descriptions

AITC 670 Usable Security and Privacy

This seminar explores the critical intersection of security, privacy, and usability. Students will gain a foundational understanding of key concepts, practical skills, and a deep appreciation for the human element in security. By analyzing real-world case studies, applying user-centered design principles, and evaluating ethical considerations, students will develop the expertise to design and implement effective, user-friendly security solutions.

Pre-requisite: IDIA 672 Human Factors in Security

AITC 674 Requirements Elicitation and UX

Bridges user experience design concepts with traditional software requirements elicitation processes and cybersecurity. Students learn about and implement best practices in requirements elicitation, maintaining the focus completely on the user experience rather than other functional and non-functional requirements that are traditionally at the core of the process of identifying software specifications.

Pre-requisite: IDIA 672 Human Factors in Security

AITC 676 Documentation and Testing for Usable Security

Focuses on the deliberate inclusion of concepts and practices related to user experience into software testing and documentation, which are processes that are closely tied to cybersecurity. Students will learn about testing and documentation tools and techniques, and the course content will focus on aspects related directly to usability and user experience. The material covered in this course takes the students from the initial steps of the process of testing as well as documentation, all the way to finished reports and documents. The instructor will utilize free and open-source software for practical examples throughout the course.

Pre-requisite: IDIA 672 Human Factors in Security

IDIA 612 Interaction Design

Explores electronic environments as fluid spaces where interactions among people, machines and media (words, images, sounds, video, animations, simulations) must be structured for the unforeseen. The course focuses on planning, analyzing, prototyping, and integrating interaction design with interface design. Lab fee required.

Prerequisite: PBDS 501 or passing score on HTML Proficiency Exam.

IDIA 630 Information Architecture

Students develop recommendations for site structure, navigation, labeling, metadata, and content strategy for a specific business model, audience, and context. Students base their recommendations on user research, requirements gathering, competitive analysis, and site analysis, including accessibility analysis. Lab fee required.

Prerequisite: PBDS 501 or passing score on a specified equivalent HTML proficiency exam.

IDIA 640 Humans Computers and Cognition

Introduces concepts, theories, and methods that support the study of human-computer interaction and user-centered system design. Students apply concepts from cognitive psychology and visual processing to explore human problem-solving, learning, knowledge representation, and problems of interface design. Prepares students to understand and analyze research based on empirical study of human behavior in its variety and complexity and on models of learning and understanding.

IDIA 642 Applied User Research for UX

Introduces the chief methods for studying users' interactions with software and information resources in ways that support design decisions. Encompasses both quantitative and qualitative methods, including methods such as surveys, focus groups, field studies, and traditional usability studies.

IDIA 660 Usability and Accessibility in Cybersecurity

Examines the critical challenges of usability and accessibility within cybersecurity. This course emphasizes user-centered design and iterative development to create secure, intuitive, and inclusive cybersecurity experiences. Students will engage in user testing methodologies to evaluate and enhance cybersecurity tools and practices, ensuring they are effective and accessible for diverse user populations.

Prerequisite: IDIA 640 Humans, Computers, and Cognition.

IDIA 662 Designing for Security

Bridges the gap between cybersecurity and user experience (UX) design, providing students with the skills to create secure systems that are also user-friendly. Through hands-on activities and theoretical study, students will learn how poor usability can compromise security and how human-centered design principles can enhance security features. Topics include designing intuitive authentication systems, addressing common usability pitfalls in security, and conducting usability testing to improve system effectiveness. This course is ideal for programmers and cybersecurity professionals looking to integrate UX principles into security solutions.

IDIA 672 Human Factors in Security

The human factor in cybersecurity threats is often overlooked, and solutions often focus upon forcing humans to adapt to the technological fix. This course examines the neurocognitive, psychological, and physical aspects of human cognition that impact the development and deployment of cybersecurity tools. It emphasizes the methodological approaches to designing security tools and interfaces that work alongside human cognition. Students will examine the levels of analysis at which humans interact with cybersecurity solutions from the internal through the organizational. The focus will be on how cybersecurity professionals and solutions can better leverage human abilities to improve cybersecurity.

IDIA 712 Advanced Interaction Design

Intensive exploration of topics in advanced interaction design of mutual interest to students and faculty. Content varies according to the concurrent interests of faculty and students. Course may be repeated for credit when the topic changes. Lab fee required. Prerequisite: PBDS 501 or passing score on the hypermedia proficiency exam.

IDIA 740 Topics in Computers and Cognition

Intensive exploration of topics in human/computer interaction and cognition of mutual interest to students and faculty. Content varies depending on the interests of faculty and students. Course may be repeated for credit when topic changes. Lab fee required. Prerequisite: IDIA 640 or permission of instructor.

IDIA 742 Topics in User Research

Intensive exploration of topics in user research of mutual interest to students and faculty. Content varies depending on the interests of faculty and students. Course may be repeated for credit when the topic changes. Lab Fee required. Prerequisite: PBDS 501 or passing score on the hypermedia proficiency exam in addition to IDIA 642.

Discuss how general education requirements will be met, if applicable.

Not applicable to graduate degrees.

Identify any specialized accreditation or graduate certification requirements for this program and its students.

There are no accreditation or graduate certifications required for this program.

If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

Not applicable.

Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial resources, and costs and payment policies.

UBalt's website is a valuable resource that offers students a wealth of up-to-date information. This includes details about program curricula, course and degree requirements, expected technology competencies and skills for each degree, technical equipment prerequisites for courses, academic support services, available financial aid resources, comprehensive cost breakdowns, and payment policies. Additionally, students can access information about our state-of-the-art learning management system (LMS), Canvas, which serves as a vital platform for their educational journey.

Within Canvas, we provide a range of student tutorials to assist with LMS navigation, ensuring students can make the most of its features. Moreover, individual courses can offer resource materials through this platform, further enhancing the learning experience.

Our commitment to student success extends to ensuring accessibility. The University's Office of Disability and Access Services maintains a dedicated website and physical office with regular office hours. We also provide access to video and audio technologies to assist students who require accommodation.

The Division of Student Support and Access Services, along with the Bogomolny Library, offer a diverse array of academic and other support services. These encompass access to counseling resources, available 24/7, to address the various needs of our students and foster their overall well-being.

The program director will work with the website content manager to ensure that the MS in User-Centered Cybersecurity curriculum content pages are developed and posted. The catalog will be revised to reflect the new program requirements, and an updated Guide to Graduation for the MS in User-Centered Cybersecurity will be provided for the major. Information about course formats and technology assumptions, as well as any equipment requirements, will be available, as usual, to students in the course schedule. Each student will receive a syllabus that outlines student learning outcomes, course format, technology

needs, and campus resources. These resources include the Office of Disability and Access Services, the Academic Support Center (which has a Writing Center), and the Office of Technology Services.

Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The program director will communicate with the Yale Gordon Collge of Arts and Sciences and university marketing departments to ensure that any marketing materials, such as program fact sheets, reflect the new curriculum. See above for information about the catalog and website. The catalog is updated annually and posted online, in addition to the routine program web page updates.

H. Adequacy of Articulation

The Program is within the scope of Accelerated BS-MS programs within the University of Baltimore, as articulated by the University System of Maryland’s rules for Accelerated Programs. Under this Policy, an undergraduate student with a GPA of 3.5 or higher is allowed to take up to 9 graduate credits and double count them towards their graduate degree.

I. Adequacy of Faculty Resources

Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

Faculty Member	Appointment Type	Field	Status	Terminal Degree	Academic Rank	Courses to be taught
Bridget Blodgett	Tenured	Online Communities / Programming	Full-time	PhD	Associate Professor	IDIA and AITC courses
Cory Newman	Contract	Interaction Design / Programming	Full-time	DSc (ABD)	Lecturer	AITC courses
Kathryn Summers	Tenured	Accessibility/Usability	Full-time	PhD	Professor	IDIA courses
Greg Walsh	Tenured	User-centered Design	Full-time	PhD	Associate Professor	IDIA courses
Giovanni Vincenti	Tenured	Applied Information Technology	Full-time	DSc	Associate Professor	AITC courses

Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidence-based best practices, including training in:

a) Pedagogy that meets the needs of the students

The University of Baltimore provides periodic training to its faculty on the use of the latest online and face-to-face teaching tools through its Center for Excellence in Learning, Teaching and Technology (CELTT). It also offers professional development opportunities through attending national conferences and training, such as Coursera, EdX, etc. In addition, the faculty is afforded opportunities to attend continuing professional education sessions through other providers of technical skills training, such as Coursera and Udemy.

b) The learning management system (LMS)

The University of Baltimore provides periodic necessary trainings in its Learning Management System—Canvas—through its Center for Excellence in Learning, Teaching and Technology (CELTT) as well as periodic quality reviews of the faculty's utilization of LMS.

Evidenced-based best practices for distance education, if distance education is offered.

Similar to LMS training, The University of Baltimore's CELTT provides periodic training in online teaching to its faculty. Additionally, the faculty of the Yale Gordon College of Arts and Sciences coordinates informal, collegial discussions about course design and delivery. Student evaluation data is used to improve course design and effectiveness.

J. Adequacy of Library Resources

The program does not require substantial additional library resources beyond those already provided by the University of Baltimore's Bogomolny Library which provides an adequate level of access to academic books and journals. Bogomolny Library also provides access to a number of datasets that can be used in usability and cybersecurity projects.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment

The University of Baltimore's current facilities provide excellent conditions for user-centered cybersecurity work through our User Research Lab and through our current computer labs. The University also provides students with loaner laptops whenever they need them. Our classrooms are adequately equipped for both online and face-to-face instruction, and they have up-to-date IT infrastructure.

The University of Baltimore provides every student with an email address, access to our learning management system (Canvas), and free access to Office 365 software (Word, Excel and PowerPoint). All faculty and credit-earning students are provided with an institutional e-mail account that integrates with the institution's learning management

system, Canvas. Open-access, comprehensive student support for the learning management system is provided in module format and includes “how to” video and print tutorials, links to student services, and tips for success in an online learning environment. Faculty can access an LMS training site and work with Canvas faculty fellows from their colleges and instructional designers for course design and technical support. Both faculty and staff have access to 24/7 phone and chat support.

L. Adequacy of Financial Resources with Documentation

Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds. Do not leave any cells blank (use “0” if no data is applicable).

The Yale Gordon College of Arts and Sciences anticipates a modest student gain per year because of this program. We assume that this program will attract students who primarily plan to take two courses, or six credits, per semester, similar to the way the majority of students currently pursue the MS, Interaction Design and Information Architecture degree. Also, due to our Regional tuition and fee structure for students in Maryland, Washington, D.C., Delaware, and parts of Virginia and Pennsylvania, this tuition estimate uses in-state tuition for all estimates. Future tuition estimates are modeled on a 2% increase per year while fees, including projected course fees, are not increased in the model. Future enrollment estimates are based on an initial surge in the second year due to Spring enrollments and then 10% annual growth.

Resource Categories	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1. Tuition and Fee Revenue (c + g below)	\$155,508	\$279,534	\$296,588	\$314,050	\$331,920
a. Number of F/T students	2	4	4	4	4
b. Annual Tuition/Fee Rate	\$17,924	\$18,212	\$18,518	\$18,824	\$19,130
c. Total F/T Revenue (a*b)	\$35,848	\$72,848	\$74,072	\$75,296	\$76,520
d. Number of P/T students	10	17	18	19	20
e. Credit Hour Rate	\$993 + \$25	\$1009+ \$25	\$1,026 + \$25	\$1,043 + \$25	\$1,060 + \$25

f. Annual Credit Hours	12	12	12	12	12
g. Total P/T Revenue (d*e*f)	\$119,660	\$206,686	\$222,516	\$238,754	\$255,400

Complete Table 2: Program Expenditures and Narrative Rationale. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

Resource Categories	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1. Faculty (b + c below)	\$17,754	\$93,440	\$144,193	\$147,754	\$151,316
a. Number of FTE	0	0.5	1	1	1
b. Total Salary	\$16,450	\$76,350	\$113,150	\$116,450	\$119,750
c. Total Benefits	\$1,304	\$17,090	\$31,043	\$31,304	\$31,566
2. Admin Staff (b + c below)	\$0	\$0	\$0	\$0	\$0
a. Number of FTE	0	0	0	0	0
b. Total Salary	\$0	\$0	\$0	\$0	\$0
c. Total Benefits	\$0	\$0	\$0	\$0	\$0
3. Support Staff (b + c below)	\$0	\$0	\$0	\$0	\$0
a. Number of FTE	0	0	0	0	0
b. Total Salary	\$0	\$0	\$0	\$0	\$0
c. Total Benefits	\$0	\$0	\$0	\$0	\$0
4. Technical Support and Equipment	\$0	\$20,390	\$13,593	\$14,160	\$14,726
5. Library	\$0	\$0	\$0	\$0	\$0
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$1,841	\$3,257	\$3,399	\$3,540	\$3,682
Total (Add 1 through 7)	\$19,595	\$117,087	\$161,185	\$165,454	\$169,724

There is existing full-time faculty capacity to support the initial start-up of this new program. Since this program would share faculty and equipment resources with existing programs, the tables provide an incremental view of revenue and expenditures. Based upon the projected enrollment profile, the immediate resource expenses include salary for adjunct faculty, a program director summer stipend, and consumables paid for by charged course fees. Enrollment growth in the out-years will require additional full-time faculty and adjunct support. The Technical Support and Equipment and Other Expenses resource categories illustrate the planned equipment recapitalization and course consumables, respectively, that are funded with course fees.

M. Adequacy of Provisions for Evaluation of Program

The University has a shared governance process for curriculum approval. Both new courses and new programs are required to submit student learning outcomes (SLOs), which are then evaluated by faculty curriculum committees, plus staff in the deans' and provost's office.

The assessment of program student learning outcomes is faculty-driven. Assessment generally occurs within courses, but assessment results are shared and evaluated within the Yale Gordon College of Arts and Sciences.

Faculty are evaluated annually by their supervisor and dean. In addition, policies for tenure-track and tenured faculty call for in-depth peer review at regular intervals.

All courses undergo student evaluation using the college-wide software tool Explorance Evaluations. Students complete evaluations of their course and the instructor at the end of each semester, using an online form. Data from these evaluations are incorporated in the annual chair's evaluation of faculty and are used in faculty promotion and tenure decisions.

Student learning outcomes are assessed over a two-year cycle using direct and indirect measures. The primary assessment measures are direct assessments administered within courses, evaluated by faculty, reviewed by programs, and affirmed by the Yale Gordon College of Arts and Sciences as a whole.

Retention is a key metric of the quality of our courses and faculty and retention data is reviewed on an ongoing basis, as are student evaluations of faculty. These evaluations have highlighted improvements that can be implemented across the curriculum in course delivery and feedback.

As we implement the new curriculum, we have created a new assessment plan. Embedded assessments will be deployed beginning in Fall 2025 for the new program goals and the faculty will use this data to drive curriculum improvement.

N. Consistency with the State's Minority Student Achievement Goals

The University of Baltimore is an unusually diverse institution, with an average undergraduate age over 27, and a majority-minority undergraduate population. Approximately 47 percent of UB students are African American and 32 percent white.

The University serves nontraditional students, which includes many working adults. UBalt's current strategic plan underlines the importance of diversity, equity, and inclusion, and one of the strategic goals is specifically to strengthen UBalt's commitment to these core values.

O. Relationship to Low Productivity Programs Identified by the Commission

This program is not related to any low-productivity programs.

P. Adequacy of Distance Education Programs

The University of Baltimore has a long history of online education, offering the first fully online AACSB-accredited MBA program and having had the MS in Interaction Design and Information Architecture and PBC in User-Experience (UX) Design programs completely online for over ten years. As a University, we are versed in the technical, pedagogical, and social aspects of online learning.

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TOPIC: Humanities Across the USM

COMMITTEE: Committee on Education Policy and Student Life and Safety

DATE OF MEETING: December 3, 2024

SUMMARY: Today, we'll be highlighting the humanities across the USM. Recent feedback from USM institutions showed that all of our universities have programs, centers, and experiences specifically focused on and related to the humanities and that the humanities as a whole are thriving across the System.

We'll hear from three individuals about humanities on their campuses. We're joined by a Provost, a Dean, and a faculty member from three different universities to provide a full picture of what is happening across the USM related to the humanities. The panel consists of:

- Dr. Laurie Couch, Provost and Senior Vice President of Academic Affairs, Salisbury University
- Dr. Kimberly Moffitt, Dean, College of Arts, Humanities, and Social Sciences, University of Maryland, Baltimore County
- Dr. Blessing Diala-Ogamba, Chair and Professor, Department of Humanities, Coppin State University

ALTERNATIVE(S): Information item.

FISCAL IMPACT: Information item.

CHANCELLOR'S RECOMMENDATION: Information item.

COMMITTEE ACTION: DATE: December 3, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Alison Wrynn, awrynn@usmd.edu; 301-445-1992

TOPIC: Report on Academic Program Actions Delegated to the Chancellor, AY 2023-2024

COMMITTEE: Education Policy and Student Life and Safety

DATE OF COMMITTEE MEETING: December 3, 2024

SUMMARY: In accordance with Board Resolution III-7.03, a report is submitted annually to the Board of Regents of program actions delegated to the Chancellor. Between September 2023 and August 14, 2024, the Chancellor approved 133 actions, including:

- suspension or discontinuation of 41 programs (including 8 degree programs, 14 certificates, and 19 areas of concentration within an existing degree);
- 20 title changes;
- 16 modality changes (adding or changing to online);
- 22 Classification of Instructional Programs (CIP) code changes;
- 23 new certificates (11 upper-division and 12 post-baccalaureate);
- 4 new areas of concentration and 5 other major modifications to existing degree programs; and
- 2 new offerings at USM Regional Higher Education Centers.

In addition, the Board of Regents approved 17 new degree programs (8 BS, 2 BA, 1 MA, 5 MS, 1 DVM) and one general education program was revamped. Closed sites are notifications rather than action requests so new closed sites are not listed in this report. A chart detailing the Chancellor's actions and programs approved by the Board for a total of 150 approvals for this report is attached.

ALTERNATIVE(S): This is an information item.

FISCAL IMPACT: This is an information item.

CHANCELLOR'S RECOMMENDATION: This is an information item.

COMMITTEE RECOMMENDATION: Information Only DATE: December 3, 2024

BOARD ACTION: Information Only DATE: December 20, 2024

SUBMITTED BY: Alison Wrynn 301-445-1992 awrynn@usmd.edu

Academic Program Actions AY 2023-24

Institution	Chancellor's Actions			Board Actions
	Discontinued or Suspended Concentrations and Programs	New Certificates, Concentrations/Modified Programs and Degree Changes	Title Changes	
Bowie State University (BSU)				B.S. in Virtual Reality and Gaming – new program (06-17-24)
Coppin State University (CSU)		M.Ed. Teacher Leadership change in program modality (8-30-23)		

AOC: Area of Concentration
 BA: Bachelor of Arts
 BFA: Bachelor of Fine Arts
 BS: Bachelor of Science
 BTS: Bachelor of Technical Studies
 BPS: Bachelor of Professional Studies

CAS: Certificate of Advanced Studies
 DNP: Doctor of Nursing Practice
 MA: Master of Arts
 MFA: Master of Fine Arts
 MPS: Master of Professional Studies
 MS: Master of Science

LDC: Lower-Division Certificate
 PBC: Post-Baccalaureate Certificate
 PMC: Post-Master's Certificate
 UDC: Upper-Division Certificate

Academic Program Actions AY 2023-24

Institution	Chancellor's Actions			Board Actions
	Discontinued or Suspended Concentrations and Programs	New Certificates and Concentrations/Modified Programs and Degree Changes	Title Changes	
Frostburg State University (FSU)	<p>BS Economics – discontinue areas of concentration in</p> <ul style="list-style-type: none"> -Business Economics (12/21/23) -Quantitative Economics (12/21/23) -Public Policy (12/20/23) <p>BS Geography – discontinue area of concentration in Mapping and Geospatial Sciences (12/21/23)</p> <p>BS Elementary Education (Major) – suspension of education program. (3-28-24)</p> <p>BA Foreign Languages & Literature Major, Spanish Area of Concentration –discontinue (5-3-24)</p> <p>BS International Studies – suspend (5-20-24)</p>	<p>BS Political Science – substantial modification (6-27-24)</p>	<p>BS – Title Change Cybersecurity and Information Assurance – retitle from Secure Computing and Information Assurance (5-3-24)</p>	

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Academic Program Actions AY 2023-24

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	Discontinued or Suspended Concentrations and Programs	New Certificates and Concentrations/Modified Programs and Degree Changes	Title Changes	
Salisbury University (SU)		General Education – Approve new General Education Program (11-28-23) MEd Education Leadership – Add online modality (3-12-24) CIP Code Change for BA Economics and BS in Business Economics (7-15-24)		BA Music Therapy – new program (5/2/24) BS Engineering Physics – new program (4-19-24) MA Public Communication – new program (2/5/24)

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Academic Program Actions AY 2023-24

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	Discontinued or Suspended Concentrations and Programs	New Certificates and Concentrations/Modified Programs and Degree Changes	Title Changes	
Towson University (TU)	<p>Discontinue AOC BS Functional Biology of Animals (4-11-24)</p> <p>Suspend MFA Theatre Arts (8-18-24; MHEC approval date pending)</p>	<p>PBC Professional Spanish – move to online modality (10-9-23)</p> <p>MS Education – Secondary Education – add online modality (1-8-24)</p> <p>MEd Educational Leadership – change in program modality to online (3-12-24)</p> <p>UDC – Geospatial Technologies – new certificate program with existing degree (6-4-24)</p> <p>MS Accounting & Business Advisory Services with UB - CIP Code change (4-4-24)</p> <p>PBC Music Therapy (stand-alone); (8-18-24; MHEC approval pending as of 082324)</p>	<p>PBC Interactive Media retitled to PBC in Design in User Experience (UX) (10-9-23)</p> <p>MA Leadership in Jewish and Communal Service retitled to Jewish Studies, Education and Communal Leadership (3-12.-24)</p> <p>MEd in Special Education (AOC) title change to Teach as Leader in Autism Spectrum Disorder to the AOC as Teacher as Leader in Autism (5-20-24)</p> <p>Retitle PBC in Autism Spectrum Disorders in the Classroom to PBC in Autism in the Classroom (5-20-24)</p>	<p>BS Biophysics – new program (5-10-24)</p> <p>BS in Interdisciplinary Physics – new program (6-4-24)</p>

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Academic Program Actions AY 2023-24

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University of Baltimore (UBalt)	<p>Suspend MS in Applied Psychology with AOCs in I/O Psychology and Counseling Psychology (6-18-24)</p> <p>Discontinue BA Jurisprudence (10-6-23)</p> <p>Suspend PBC Internal Audit – (4-29-24)</p>	<p>BS Cyber Forensics - add online modality (2-14-24)</p> <p>MS Cyber Forensics – add online modality (2-14-24)</p> <p>New PBC Essential Conflict Resolution within the existing MS in Negotiations and Conflict Management Program (2-13-24)</p> <p>New PBC Diversity, Equity and Inclusion- within the existing MPA - dual modality (2-22-24)</p> <p>New PBC in Global Engagement within the existing MA in Global Affairs and Human Security - dual modality. (4-1-24)</p> <p>New PBC Global Engagement within the existing MA in Global Affairs and Human Security - dual modality (4-1-24)</p> <p>New PBC in Nonprofit Leadership within existing MS in Non-profit Management and Social Entrepreneurship - on campus (3-25-24)</p> <p>MBA – offer existing program at the USM Hagerstown – new program (5-10-24)</p> <p>CIP code change MS Accounting & Business Advisory Services (joint with Towson U) (4-4-24)</p>	<p>Retitle MS Counseling to MS Counseling Psychology (6-6-24)</p>	<p>MS Artificial Intelligence in Business- new program (4-19-24)</p>

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Academic Program Actions AY 2023-24

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	Discontinued or Suspended Concentrations and Programs	New Certificates and Concentrations/Modified Programs and Degree Changes	Title Changes	
University of Maryland, Baltimore (UMB)	<p>PBC Scientific and Medical Entrepreneurship – discontinue (11-28-23)</p> <p>PBC Global Health Innovation – discontinue (11-28-23)</p> <p>MS Social Entrepreneurship – discontinue (10-9-23)</p> <p>MS Global Health - Discontinue AOC Global Health Innovation (3-11-24)</p> <p>PBC Evidence-Based Practice in Nursing – discontinue (1-15-24)</p> <p>PBC Oncology Nursing – discontinue (12-21-23)</p> <p>PhD Nursing – AOC Direct Nursing – discontinue (1-4-2024)</p> <p>PhD Nursing – AOC Indirect Nursing – discontinue (1-4-2024)</p> <p>Discontinue AOC Social Strategy within the MSW (5-6-24)</p>	<p>PBC Intercultural Leadership modality change from hybrid to online (10-3-23)</p> <p>MS Diversity, Equity, and Inclusion Leadership modality change from hybrid to online (10-3-23)</p> <p>MS Nursing AoC Nursing and Inclusive Leadership - substantive modification of AOC (9-7-23)</p> <p>MS Nursing AoC in Health Services Leadership and Management – substantive modification of AOC (9-7-23)</p> <p>MS Global Health – new AOC in Social Entrepreneurship (4-17-24)</p> <p>MS Global Health – new AOC in Global Research Ethics (3-25-24)</p> <p>MS Global Health – new AOC Global Health Innovation (3-25-24)</p> <p>New PBC Palliative Care (within existing MS in Palliative Care) (1-3-24)</p> <p>New PBC Research in Palliative Care – within existing MS and PhD in Palliative Care (1-3-24)</p> <p>PhD Health Profession Education – Make online (limited residency) (12-11-24)</p>	<p>PBC Research Ethics title change to Global Research Ethics (3-11-23)</p> <p>MS Nursing – Nursing Administration AOC retitled to Nursing Leadership and Management (9-18-23)</p> <p>MS Health Sciences retitle AOC Research Ethics to AoC Global Research Ethics (3-11-24)</p> <p>Retitle MS Health Science AOC Research Implementation and Dissemination to AOC Implementation and Dissemination Science (2-8-24)</p> <p>MSW retitle AOC Social Administration to AOC Leadership, Policy, and Social Change (6-10-24)</p>	

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	Discontinued or Suspended Concentrations and Programs	New Certificates and Concentrations/Modified Programs and Degree Changes	Title Changes	
University of Maryland, Baltimore (UMB)	<p>MS Nursing – Discontinue the following concentrations: (11-28-23): AOC Clinical Research Management - AOC Gerontological AOC Maternal Child Health AOC Medical-Surgical AOC Nurse Anesthesia AOC Primary Care AOC Policy AOC Psychiatric Adult & Child AOC Teaching</p> <p>Suspend MS Medical and Research Technology (8-15-24 UMS; MHEC approval pending)</p> <p>Discontinue BS Medical and Research Technology (8-15-24 USM; MHEC approval pending)</p>	<p>MS Health Sciences – new AOC Social Entrepreneurship (online) (4-17-24)</p>		

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Academic Program Actions AY 2023-24

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University of Maryland Baltimore County (UMBC)	<p>PBC Mechatronics (7-15-24) suspend</p> <p>PBC Mathematics Instructional Leadership (8-2-24) suspend</p> <p>PBC Elementary/Middle Science Education (8-2-24) suspend</p> <p>PBC Secondary Science Inquiry - suspend (8-2-24)</p> <p>PBC S.T.E.M. Education - suspend (8-2-24)</p> <p>UDC Project Management for Information Technology - suspend (6-27-24)</p> <p>Suspend PBC Secondary Physical Science Education (8-13-24)</p> <p>Suspend PBC STEM Educational Leadership (8-12-24)</p> <p>Discontinue PBC in Music Entrepreneurship (5-28-24)</p>	<p>MS Cybersecurity – additional location at Universities at Shady Grove (1-8-24)</p> <p>New PBC Healthcare Emergency Management (MHEC approval pending as of 08-23-24)</p>	<p>Retitle BA Gender and Women's Studies as Gender, Women's, and Sexuality Studies as (3-11-24)</p> <p>Retitle BFA Visual Arts AoC Photography to AoC Photography and Cinema (AOC) - (3/11/24)</p> <p>M.S. - Emergency and Disaster Health Systems retitled from Emergency Health Services (8-2-24)</p>	

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Academic Program Actions AY 2023-24

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University of Maryland College Park (UMD/UMCP)		PBC Professional Studies – Add new iteration – Risk Management and Mitigation (1-11-24) MS Criminology and Criminal Justice – Add online modality (12-11-23) MS Applied Economics – add online modality (3/19/24) BS Fire Protection Engineering – add online modality 2/26/24 CIP code change for Master in Community Planning (7-15-24) CIP code change for MS in Management (7-1-24)	BA African American Studies – change name to BA African American and Africana Studies (11-28-23) UDC African American Studies – change name to UDC African American and Africana Studies (11-28-23) Retitle BS Community Health to BS Public Health Practice (5-20-24)	BA and BS in International Relations – new programs (4-19-24) BS Global Health – new program (11-29-23) MS Applied Machine Learning – new program (1/9/24) MS Data Science – new program (1-16-24) MS Quantum Computing – new program (4/22/24) MS Bioinformatics and Computational Biology – new program (1/16/24)

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Academic Program Actions AY 2023-24

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	Discontinued or Suspended Concentrations and Programs	New Certificates and Concentrations/Modified Programs and Degree Changes	Title Changes	
University of Maryland, Eastern Shore (UMES)		BS Sport Management (Online) - change modality to online (11-28-23) New UDC Aviation Maintenance – Powerplant (stand-alone; later to be stackable) (12-27-23) New PBC Global Humanitarian Disaster Assistance (stand-alone, online) (12-27-23) New UDC Aviation Maintenance Technology – Airframe (stand-alone) – (1-26-24) New PBC Career Technology (CTE) with existing (MEd) in CTE (5-14-24) UDC Work-Based Learning (WBL) and Career Counseling – new certificate (6-1-24) UDC – Career and Technology (5-10-24) New UDC Cloud Computing and Networking within existing BS in Cybersecurity Technology (2-13-24) Substantial Modification to Pharm D program (4-17-24) Add online modality for BS in General Studies (7-1-24)		BS Gaming and Software Engineering – new program (12/19/23) Doctor of Veterinary Medicine – new program (1/16/24) BS Aviation Maintenance Management – new Program (4-9-24)

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Academic Program Actions AY 2023-24

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University of Maryland Global Campus (UMGC)	Suspend AOC in Nonprofit and Association Management (within the MS in Management (11/9/24)	Substantial Modification to BSN (3-25-24) Substantial Modification MBA (11-28-23) B.S. Management Information Systems CIP code change (6-14-24) New UDC Artificial Intelligence Foundations (4-14-24) New UDC Drones and Autonomous Systems (5-9-24) B.S. Cybersecurity Management and Policy - CIP code change (5-31-24) BS Cyber Operations – CIP code change (2-8-24) PBC Informatics - CIP code change (6-8-24) PBC Cybersecurity Management and Policy - CIP code change (5-31-24) PBC Cyber Operations - CIP code change (6-14-24) MS Data Analytics - CIP code change (5-31-24) MS Cybersecurity Management and Policy - CIP code change (5-31-24) MS - Digital Forensics and Cyber Investigation - CIP code change (6-12-24)	MS Management – AOC in Information Systems and Services – Title Change (to Information Systems) (1-26-24) BS Cyber Operations Online– retitle from Software Development and Security (2-8-24) Retitle BS Software Development and Security to BS Cyber Operations (2-8-24)	

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Academic Program Actions AY 2023-24

BPS: Bachelor of Professional Studies

MS: Master of Science

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University of Maryland Global Campus (continued)		MS Cyber Operations - CIP code change (7-1-24) New UDC Crime Scene Investigation within existing BS Criminal Justice (2-13-24) New UDC Cloud Computing and Networking within existing BS Cybersecurity Technology (2-13-24) UDC Digital Design – CIP code change (6-14-24) UDC Cyber Threat Hunting – CIP code change (6-14-24) UDC Web Design – CIP code change (7-1-24) UDC Management Information Systems – CIP code change (6-14-24) UDC Vulnerability Assessment – CIP code change (6-14-24) BS Computer Science – CIP code change (6-14-24) BS Management Information Systems – CIP code change (6-14-24) New UDC Fundamentals of Workplace Safety (12-27-23)		

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TOPIC: Notification of Awards: Wilson H. Elkins Professorships, FY25 and USM Scholarships, AY 2024-2025

COMMITTEE: Committee on Education Policy and Student Life and Safety

DATE OF MEETING: December 3, 2024

SUMMARY: Annually, the University System of Maryland (USM) Office of Academic and Student Affairs facilitates the distribution of scholarships to students and research funds in support of its faculty. These include smaller scholarships and larger ones, such as the USM Regents Scholars Program. This program awards scholarships to exceptional students to pursue their education at one of the USM institutions. Full and partial scholarships are awarded to first year and transfer students to attend an undergraduate program on a full-time basis.

The Wilson H. Elkins Professorship is designated to supplement an existing faculty line and/or to support faculty research. Special effort is made to bestow the award in those areas where the Elkins Professor will have an opportunity to make an important contribution to the teaching, research, and public service mission of the institution and the entire University System of Maryland. The Professorship is an opportunity for the faculty member and institution to build on their strengths to be of greater service to its students and to society.

These awards are supported by endowed funds, which are managed by USM officials.

The Elkins Professorship summary reveals the names, institutions, and project descriptions of the FY25 awardees. The USM scholarships report includes information about the different scholarships.

ALTERNATIVE(S): This is an information item.

FISCAL IMPACT: This is an information item.

CHANCELLOR'S RECOMMENDATION: This is an information item.

COMMITTEE ACTION: DATE: December 3, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Alison Wrynn, awrynn@usmd.edu; 301-445-1992

Wilson H. Elkins Professorship

The Elkins Professorship, which began in 1978 at the University of Maryland, College Park, was established to perpetuate the name and contributions of Wilson H. Elkins, a former Rhodes Scholar who led the University of Maryland to new levels of distinction as its president from 1954 to 1978. When the new University System of Maryland began in 1988, Dr. Elkins agreed that the professorship bearing his name should extend to the entire USM family. The Professorship may be used to recruit an outstanding individual to an institution to fill a vacancy or to provide special recognition and support to retain a current outstanding member of the faculty. An internal USM committee evaluates nominations and makes special effort to bestow the award in those areas where the Elkins Professor will have an opportunity to make an important contribution to the teaching, research, and public service mission of their institution and the entire University System of Maryland. Direct involvement with undergraduate and/or graduate students and outreach to other institutions within the System are hallmarks of the Elkins Professors. The Professorship is an opportunity for institutions to build on their strengths and to be of greater service to their students and to society.

FY24 Elkins Professorship Awardees Elkins Traditional Professorships

Award to Towson University to support the work of Dr. Mahnaz Moallem, Professor and Chair of the Department of Learning Technologies, Design, and School Library Media – Using funds to establish Girls Computing and Cybersecurity Clubs in the College of Education that will address persistent racial and gender disparities in computing, artificial intelligence, and cybersecurity. The clubs will serve as a research and professional development hub for faculty in teacher preparation programs. \$66,578

Award to the University of Maryland, Baltimore to support the work of Professor Rabiya Akande, Francis King Carey School of Law - Using funds to explore the relationship between law and colonial power. This project will engage students and personnel within the communities being studied and will result in scholarship, a workshop series, podcasts, and conference presentations. \$40,000 – Year 1 of 2

Award to the University of Maryland, College Park to support the work of Dr. Miao Yu, Professor and Director of the Sensors and Actuators Laboratory within the Department of Mechanical Engineering – Using funds to support a collaborative project (at the interface of engineering, computer science, biology, and aquaculture) investigating novel sensing and robotics tools for the study of marine ecosystem dynamics to promote sustainability. The collaboration includes the University of Maryland Center for Environmental Science and the University of Maryland Eastern Shore and the research team will include graduate, undergraduate, and high school students. \$30,000 – Year 2 of 2

Elkins Academic Transformation Professorships

Award to Bowie State University to support the work of Dr. Rosemary Shumba, Chair and Professor of Computer Science - Using funds to conduct a feasibility study to establish an Experiential Learning Center (ELC) within the Department of Computer Science to enhance access, affordability, and quality for underrepresented students in computing fields. \$30,000

Scholarship of Teaching and Learning Fellows

The 2024-25 Elkins SoTL Fellows are:

Debra McLaughlin, Program Director, Natural Sciences, University of Maryland Global Campus, with co-principal investigator Meenu Vikram, part-time faculty at University of Maryland Global Campus and full-time faculty at Notre Dame University of Maryland.
David Leasure, First-Term Experience, University of Maryland Global Campus

Haitham Alkhateeb, Professor, Mathematics, University of Baltimore

Carlos Faerron Guzmán, Associate Professor of Global Health, with co-principal investigator Amy Ramirez, Executive Director, Global Learning, University of Maryland, Baltimore

Nicole Hollywood, Professor, Business, Management and Accounting, with co-principal investigator Katherine Quinn, Associate Professor, Hospitality and Tourism Management, University of Maryland Eastern Shore

**University System of Maryland Scholarship Programs
AY 2024 -2025**

The University System of Maryland administers more than two dozen endowed scholarship funds that help in-state students from across the System afford an undergraduate education. Some are small, providing about less than \$1,000 once to one student. Others are more significant, such as Regents Scholarships, which can provide a scholarship to cover tuition and fees, room and board, and a set stipend for educational expenses for one or two students. All the scholarships have been provided by the generosity of donors who want to assist students, often in memory of someone who was dedicated to education. While some scholarships look solely at academic merit, others have additional criteria relating to students' demonstration of financial need or another criterion such as academic discipline.

For the past year, staff have researched all the funds to ensure that the criteria for awarding are known and documented. Some small funds still require further research. A few funds that are restricted to be awarded to just one institution's students have been moved to that institution. A financial analysis was carried out to determine how much funding could be awarded from each fund so that its expenditures approximate that fund's annual interest. Staff also reviewed the process for awarding the larger scholarships and sought feedback from institutions. For first-year students, that process has involved seeking applicants from the schools and competitively reviewing the applicants. But those applications arrived after most aid had already been awarded. The funds could not be used to help attract students. Thus, the decision was made to find a way to rotate the awards so that each institution will receive at least one significant student award and one smaller student award per year. For first-year students, this process will begin for students now applying (allocations will be provided prior to the Board meeting). There are some scholarships for transfer students as well, including some full scholarships.

The largest scholarships—those that cover all or most of the cost of attendance for an in-state student—are the highly competitive Regents Scholarships. Because of the expense of these awards, the funds are not all awarded every year; the timing depends on the size of the endowment. Most awards require full-time attendance, but one of the transfer awards allows part-time attendance.

**Projected Spending for the University System of Maryland Scholarships
AY 2024-2025**

Type of Scholarship	New Awards	Continuing Awards	Average Award Amount	Aggregate Amount (estimated)	Notes
Regents – full	3 Transfer Students from MD community colleges	5 Students originally awarded as MDCC transfer students	\$26,441	\$211,530	Amounts have been calculated for the full Regents Scholarship numbers to include the remission of tuition & fees provided by the USM institutions.
	Pending first-year awards	7 Students originally awarded as first-year students	\$35,717	\$250,021	Amounts have been calculated for the Regents Scholarship numbers to include the remission of tuition & fees provided by the USM institutions.

Partial awards	4 Kelly Access Opportunity Grants (transfer)	3 Kelly Access Opportunity Grants (transfer)	\$4000	\$28,000	
	3 various (Kuhn et al.) N/A		\$1,833	\$5500	
	Fatzinger transfer (6)		\$2,000	\$12,000	One-time awards;
Wild Near-Completer Awards	Approx. 40	N/A	\$11,000 per institution; per student amount usually about \$3,000	\$121,000	One-time awards made to students selected by the institution to drive completion
Total	56	15		\$628,051	

TOPIC: Universities at Shady Grove Update: Partnership Council and Super Studio

COMMITTEE: Committee on Education Policy and Student Life and Safety

DATE OF MEETING: December 3, 2024

SUMMARY: Dr. Anne Khademian, Executive Director of the Universities at Shady Grove, will be providing an update on the Partnership Council and super studio.

ALTERNATIVE(S): Information item.

FISCAL IMPACT: Information item.

CHANCELLOR'S RECOMMENDATION: Information item.

COMMITTEE ACTION:

DATE: December 3, 2024

BOARD ACTION:

DATE:

SUBMITTED BY: Alison Wrynn, awrynn@usmd.edu; 301-445-1992



UNIVERSITY SYSTEM
of MARYLAND

**BOARD OF REGENTS
COMMITTEE ON FINANCE**

December 4, 2024

Meeting via Video and Conference Call

DRAFT

Minutes of the Public Session

Regent Fish called to order the meeting of the Finance Committee of the University System of Maryland Board of Regents at 10:32 a.m., welcoming participants joining via video and teleconference.

Regents participating in the session included: Ms. Fish, Ms. Gooden, Mr. Hasan, Mr. Mirani, Mr. Pope, Mr. Sibel, and Mr. Wood. Also participating were: Chancellor Perman, Ms. Herbst, Dr. Wrynn, Dr. Masucci, Mr. Sandler, Assistant Attorney General Bainbridge, Assistant Attorney General Langrill, Assistant Attorney General Palkovitz, Assistant Attorney General Stover, Ms. Aughenbaugh, Mr. Donoway, Mr. Palmer, Ms. Michels, Mr. Oler, Mr. Reuning, Dr. Rhodes, Mr. Sergi, Mr. Keeney, Ms. Adkins, Dr. Balakrishnan, Ms. Demarest, Mr. Mowbray, Mr. Rose, Ms. Watson, Mr. Hollingsworth, Mr. Moore, Ms. Auburger, Mr. Beck, Ms. Denson, Mr. Eismeier, Mr. Hickey, Mr. Muntz, Ms. Norris, Mr. Samuel, Mr. Hoffacker, Ms. Bucko, Mr. Brown, Ms. Perry, Mr. Lurie, Ms. McMann, and other members of the USM community and the public.

Turning to the first item on the agenda, Regent Fish welcomed Dr. Rhodes, chief business and finance officer and senior vice president; Mr. Mowbray, director, real estate, planning and space management; and Mr. Rose, university counsel, for the University of Maryland, Baltimore.

1. University of Maryland, Baltimore: Lease of 635 W. Lexington Street to the American Cancer Society and Termination of 1983 Lease and Agreement for 636 W. Lexington Street (action)

Regent Fish presented the University's request for approval of a lease agreement with the American Cancer Society (ACS) for 635 W. Lexington Street, the former site of the Ronald McDonald House, which relocated to East Baltimore several years ago. The proposed lease has an initial term of 25 years, with an option to renew for an additional 15 years, followed by two five-year renewal periods, for a total potential lease term of 50 years.

As part of this request, UMB also seeks approval to terminate an existing ground lease with ACS at 636 W. Lexington Street, where the current Hope Lodge facility operates. The facility supports patients undergoing cancer treatment and their families but has reached the end of its useful life. ACS plans to move operations across the street to 635 W. Lexington Street, which will allow for an expansion of capacity. The new Hope Lodge facility will increase the number of guest rooms from 29 to 40, enhancing ACS's ability to serve more patients and families. The lease agreement sets the annual rent at \$1, with ACS assuming responsibility for utilities, services, security, maintenance, and applicable taxes. Termination of the existing ground lease includes a consideration payment of \$90,000 to ACS.

UMB has identified the 636 W. Lexington Street property as a strategic site for future development under its Facilities Master Plan. Regent Fish noted that the proposed transaction will require approval from the Board of Public Works. Regent Fish invited Dr. Rhodes to provide additional comments. Dr. Rhodes stated that this action will result in the assembly of a large contiguous area, which is a plus and will fuel the strategic plan for W. Lexington Street and beyond. There were no questions or further discussion.

The Finance Committee recommended that the Board of Regents approve UMB entering into a new lease with ACS for 635 W. Lexington Street and terminating the existing lease with ACS for 636 W. Lexington Street, as described in the item, consistent with the University System of Maryland Policy on Acquisition, Disposition and Leasing of Real Property.

(Regent Wood moved recommendation, seconded by Regent Pope; approved)

Vote Count = Yeas: 6 Nays: 0 Abstentions: 0

2. University of Maryland, College Park: Early Renewal and Modification of the Workday Contract (action)

Regent Fish recognized Mr. Reuning, interim vice president and chief administrative officer; Mr. Oler, vice president and chief financial officer; Ms. Watson, assistant vice president for procurement and business services; and Mr. Hollingsworth, vice president and chief information officer, who were available to answer questions regarding the agenda item. Regent Fish stated that the University is seeking approval to exercise an early renewal option and modify its contract with Workday. The modification includes adding up to three two-year renewal options, which would lock in pricing through 2041. The original contract, approved by the Board of Regents in 2020, covered human capital management, finance, and student systems, with procurement and strategic sourcing added at a later date. The Workday software went live in mid-November. Exercising the renewal options early, combined with the additional options at the University's discretion, is projected to result in an overall fee reduction of \$7.2 million, with a net present savings value of \$5.5 million.

Regent Hasan inquired about cost comparisons, asking whether any were conducted, why the University chose to act now, and how the University determined that this was a favorable deal. He further questioned why the escalation rate was set at 2% rather than 1%. Mr. Oler explained that the existing contract had certain escalation provisions that would soon take effect, and this agreement allows the University to lock in pricing with lower escalation rates. He emphasized the importance of securing the maintenance contract at this time, noting that Workday is giving up \$7 million in value over the contract period. Mr. Hollingsworth added that the University quietly consults with peer institutions and confirmed that the rates achieved represent a low escalation year over year, particularly when compared to the Consumer Price Index. Ms. Watson provided additional context, explaining that typical annual escalation for software in the market ranges between 5% and 7%, making the negotiated 2% escalation particularly favorable.

Regent Mirani inquired about feedback on the implementation of Workday. Mr. Hollingsworth reported that the first payroll had been successfully processed and that all critical processes were formed. Surveys were conducted, revealing no significant issues. He stated that the University remains on target with its implementation. When asked about the rationale for extending the deal through calendar year 2034, Mr. Hollingsworth explained that a ten-year window is a prudent timeframe. Sr. Vice President Herbst added that while it is not typical to renew a contract this early, the University has carefully evaluated this decision. She emphasized that Workday is one of only two major players in the marketplace.

The Finance Committee recommended that the Board of Regents approve for the University of Maryland, College Park to modify the Workday contract to exercise the early renewal, and optional contract renewal periods through 2041.

(Regent Fish moved recommendation, seconded by Regent Pope; approved)

Vote Count = Yeas: 6 Nays: 0 Abstentions: 0

3. University of Maryland, College Park: Sole Source Contract for Food Products, Chemical Products and Non-Food Products for Dining Services (action)

Regent Fish recognized Mr. Moore, director of dining services, who joined Mr. Reuning, Mr. Oler, and Ms. Watson. Regent Fish stated that the University is seeking approval for a six-month, \$6.5 million sole-source contract with its incumbent provider, US Foods. This contract follows an earlier emergency procurement with the same vendor. Regent Fish explained that both the emergency procurement and the sole-source contract were necessary due to timing issues during the new procurement process for dining services. The University conducted a procurement for food and related products in December 2023; however, the evaluation process did not conclude until May 2024. With the existing contract set to expire on June 30, 2024, the University issued an emergency procurement to ensure continuity of service and meet the needs of students. A bid protest further delayed the process, prompting the University to pursue the sole-source contract to ensure a seamless transition from the incumbent vendor to the new provider. There were no questions or further discussion.

The Finance Committee recommended that the Board of Regents approve for University of Maryland, College Park the sole-source contract award as described in the item, for a six-month period at a cost of approximately \$6.5 million.

(Regent Fish moved recommendation, seconded by Regent Pope; approved)

Vote Count = Yeas: 6 Nays: 0 Abstentions: 0

4. USM Sponsored Supplemental Retirement Plans – 403(b) Plan and 457(b) Plan Restatement (action)

Regent Fish welcomed Ms. Langrill, assistant attorney general, and Mr. Samuel, director of human resources, and summarized the item. Regent Fish stated that the USM-sponsored Supplemental Retirement Plans, specifically the 403(b) and 457(b) plans, are being amended and restated, effective January 1, 2024, to reflect updates required by recent legislation, including the SECURE Acts and CARES Act. The amendments are designed to ensure compliance with federal law while enhancing plan functionality and flexibility for employees.

Regent Fish noted that external benefits counsel, IceMiller, collaborated with the Office of the Attorney General to prepare the plan restatements and provided a summary of the key changes. These changes were included in the meeting materials to ensure transparency around the amendments. For the 403(b) plan, the notable updates include higher catch-up contribution limits for participants aged 60 to 63, with Roth contributions required for higher earners beginning in 2026. The plan also includes expanded financial hardship provisions, allowing for self-certification, broadened rollover options, and an increased mandatory cashout threshold, which rises from \$5,000 to \$7,000. For the 457(b) plan, the updates include expanded Roth contribution and rollover options, particularly for terminated employees, as well as greater flexibility in deferrals, allowing quicker changes to contributions.

Regent Fish also highlighted that the proposal includes expanding the Administrative Committees overseeing the plans from four to seven members, ensuring broader representation and governance. She further emphasized that Board approval is required to implement these updates and maintain the plans' tax-qualified status. While the amendments have no fiscal impact on USM, they are critical to ensuring compliance with federal requirements. Mr. Samuel added that these updates occur from time to time as regulatory matters change. There were no questions or further discussion.

The Finance Committee recommended that the Board of Regents approve the amended and restated plan documents and adopt the resolutions establishing the expanded Administrative Committees for the SRA plans.

(Regent Pope moved recommendation, seconded by Regent Sibel; approved)

Vote Count = Yeas: 6 Nays: 0 Abstentions: 0

5. University of Baltimore: Regional Tuition for MBA program at USM Hagerstown (action)

Regent Fish recognized Ms. Aughenbaugh, vice president for business affairs and chief financial officer; Dr. Balakrishnan, dean of the Merrick School of Business; and Ms. Demarest, associate dean of the Merrick School of Business, who were available to answer questions regarding the agenda item. Regent Fish summarized the request, stating that the University of Baltimore (UBalt) is seeking approval to extend in-state tuition rates to residents of select counties in West Virginia and Pennsylvania to support the launch of its in-person MBA program at USM at Hagerstown in Fall 2025. She noted that this initiative aligns with marketing efforts for Fall 2025 admissions and facilitates timely recruitment.

The MBA program will offer a face-to-face option in Hagerstown, with required courses available in face-to-face, hybrid, and online formats. Students will complete 36 to 48 credit hours, with specializations such as cybersecurity, data analysis, and digital business. Initial enrollment is projected at 15 to 20 students in the first year, each taking two courses per semester. Regent Fish noted that UBalt's AACSB-accredited Merrick School of Business emphasizes real-world learning to prepare students for careers in industries such as marketing, finance, and government contracting. UBalt aims to attract residents of Pennsylvania and West Virginia, focusing marketing efforts on large employers in Hagerstown and Washington County.

The proposal builds on prior Board approvals allowing in-state tuition rates for graduate students from regional areas outside Maryland, supporting enrollment growth and offering competitive tuition options. Regent Fish noted that approval of this request will strengthen recruitment efforts and expand educational opportunities in the region. Chancellor Perman emphasized the System's high priority on providing programming to areas where the Regional Higher Education Centers (RHECs) are located. He added that UBalt's initiative to step up and offer this program reflects positively on the System as a whole.

Regent Hasan asked why these specific counties were targeted and questioned whether other counties were considered. Ms. Aughenbaugh clarified that the proposal targets the six contiguous counties, explaining that this is not a new practice, as similar regional tuition agreements already exist for programming at USM Hagerstown. Ms. Demarest expressed confidence in achieving the initial 20-student enrollment figure. There were no further questions or discussion.

The Finance Committee recommended that the Board of Regents approve regional tuition rates for residents of Morgan, Berkeley, and Jefferson counties in West Virginia, and Fulton, Franklin, and Adams counties in Western Pennsylvania, for the University of Baltimore's Merrick School of Business MBA program at USMH. The Chancellor shall have the authority to make any adjustments as necessary, consistent with existing board policies and guidelines, with any changes reported back to the Board.

(Regent Pope moved recommendation, seconded by Regent Wood; approved)

Vote Count = Yeas: 6 Nays: 0 Abstentions: 0

6. University System of Maryland: Report on FY 2024 Procurement Contracts (information)

Regent Fish recognized Mr. Hickey, associate vice chancellor of procurement and real property initiatives, author of the report and available for questions. Regent Fish summarized the item, noting that the USM Policy on Approval of Procurement Contracts requires an annual report to the Finance Committee on procurement contracts valued between \$1 and \$5 million, as well as emergency and expedited procurements. This report covers fiscal year 2024.

A total of 92 contracts met the reporting threshold, with a combined value of just under \$200 million. One emergency procurement was reported by the University of Maryland, College Park, for food and related products at a cost of \$4.9 million. No expedited procurements were reported. Regent Fish noted that, for contracts meeting the subject report's requirements, 35% were awarded to Maryland-based firms, with an MBE participation rate of 8%. A detailed chart was attached to the item for reference.

Referring to the chart, Regent Hasan expressed concern that the MBE participation rate was low and asked what USM was doing to address this and its plan to improve the figure. Mr. Hickey explained that the chart reflects a subset of activity and does not include all procurement categories. He highlighted that the overall aspirational MBE participation goal is 29% and noted that USM performs particularly well in construction contracts, where significant opportunities exist for subcontracting. However, construction contracts are not included in the \$1 to \$5 million reporting. Mr. Hickey further described the process for subcontracting opportunities, explaining that a list of certified firms is reviewed, realistic and achievable goals are established, and bids are solicited on a contract-by-contract basis. He emphasized that this is not a set-aside program. He also mentioned that institutions conduct significant outreach, including participation in the Governor's recent outreach program. As the discussion continued, Regent Gooden suggested that any additional questions and follow-ups be addressed offline.

The Finance Committee received the item for information purposes.

7. Convening Closed Session

Regent Fish read the Convene to Close Statement.

"The Open Meetings Act permits public bodies to close their meetings to the public in circumstances outlined in §3-305 of the Act and to carry out administrative functions exempted by §3-103 of the Act. The Committee on Finance will now vote to reconvene in closed session. The agenda for the public meeting today includes a written statement with a citation of the legal authority and reasons for closing the meeting and a listing of the topics to be discussed. The statement has been provided to the regents and it is posted on the USM's website."

The Chancellor recommended that the Committee on Finance vote to reconvene in closed session.

(Regent Fish moved recommendation, seconded by Regent Gooden; approved)

Vote Count = Yeas: 6 Nays: 0 Abstentions: 0

Regent Fish thanked everyone for joining. The public meeting was adjourned at 11:22 a.m.

Respectfully submitted,

Ellen R. Fish
Chair, Committee on Finance



UNIVERSITY SYSTEM
of MARYLAND

**BOARD OF REGENTS
COMMITTEE ON FINANCE**

December 4, 2024

Meeting via Video Conference

DRAFT

Minutes of the Closed Session

Regent Fish called the meeting of the Finance Committee of the University System of Maryland Board of Regents to order in closed session at 11:23 a.m. via video conference.

Regents participating in the session included: Ms. Fish, Ms. Gooden, Mr. Hasan, Mr. Mirani, Mr. Pope, Mr. Sibel, and Mr. Wood. Mr. Gonella participated in part of the session. Also participating were: Chancellor Perman, Ms. Herbst, Dr. Wrynn, Dr. Masucci, Mr. Sandler, Ms. Perry, Assistant Attorney General Bainbridge, Assistant Attorney General Palkovitz, Assistant Attorney General Stover, Ms. Auburger, Mr. Hickey, and Ms. McMann. Ms. Watson and Mr. Moore also participated in part of the session.

1. The committee discussed the awarding of a new contract for food products, chemical products and non-food products (§3-305(b)(14)).
(Regent Gooden moved recommendation, seconded by Regent Pope; approved)
Vote Count = Yeas: 6 Nays: 0 Abstentions: 0
2. The committee discussed the proposed FY 2026 Operating Budget submission and potential adjustments to the submission (§3-305(b)(13)).
This item was presented for information purposes; there were no votes on this item.

The session was adjourned at 12:03 p.m.

Respectfully submitted,

Ellen R. Fish
Chair, Committee on Finance

TOPIC: University of Maryland, Baltimore: Lease of 635 W. Lexington Street to the American Cancer Society and Termination of 1983 Lease and Agreement for 636 W. Lexington Street

COMMITTEE: Finance

DATE OF COMMITTEE MEETING: December 4, 2024

SUMMARY: The University of Maryland, Baltimore (UMB) seeks approval to enter into a new lease with the American Cancer Society (ACS) for UMB-owned real property at 635 W. Lexington Street, previously used as a Ronald McDonald House and vacant since 2019. A related action involves terminating the 1983 Lease and Agreement with ACS for UMB's real property at 636 W. Lexington Street.

The initial term of the lease will be 25 years, with an option for one additional period of 15 years, and further options upon the mutual agreement of UMB and ACS for two additional periods of five years each, totaling a maximum potential term of 50 years. The lease requires annual rent payments by ACS of \$1.00, with ACS wholly responsible for the cost of utilities, services, security, property repairs and maintenance, and any applicable taxes.

Under a 1983 ground lease with UMB, ACS constructed and operates a Hope Lodge at 636 W. Lexington Street, providing a temporary residence for patients undergoing life-threatening cancer treatments and their families. This facility, which currently offers 29 guest rooms, has reached an age and condition requiring major renovation. In addition, ACS wishes to expand the facility to accommodate more patients and families.

To meet these needs, ACS plans to relocate the Hope Lodge to 635 W. Lexington Street under a proposed new lease agreement. This relocation will allow ACS to renovate and convert the property to increase the number of guest rooms from 29 to 40.

Upon completion of the renovations and relocation of the Hope Lodge, the 1983 Ground Lease will be terminated and ownership of the building and other improvements on the 636 W. Lexington Street property will revert to UMB. As consideration for the early termination of the 1983 Ground Lease, UMB shall pay ACS the sum of \$90,000, which represents the approximate value of the difference in the terms of the 1983 Ground Lease and the New Lease.

The term of the 1983 Ground Lease was for 49 years, with an option by ACS to renew for an additional 49 years. Under the 1983 Ground Lease, ACS pays UMB annual rent in the amount of \$1.00, with ACS wholly responsible for the cost of utilities, services, security, property repairs and maintenance, and any applicable taxes.

The 636 W. Lexington Street property was identified in UMB's Facilities Master Plan as a strategically important site for future development. Terminating the 1983 Ground Lease would enable UMB to join this property with an adjacent site to create a uniquely large, unencumbered assemblage. In contrast, the 635 W. Lexington Street property holds no strategic significance for UMB and is not a site planned for future development.

This transaction will require the approval of the Board of Public Works.

TENANT: American Cancer Society, Inc., Kennesaw, GA 30144
Dr. Karen E. Knudsen, PhD, Chief Executive Officer

ALTERNATIVE: UMB could forgo the new lease with ACS for 635 W. Lexington Street and maintain the 1983 Ground Lease with ACS for 636 W. Lexington Street. However, this would limit UMB's ability to regain control of the 636 Property in the foreseeable future for development consistent with the UMB Facilities Master Plan and its goal of enhancing the northern campus area. UMB would also remain responsible for ongoing costs of utilities, services, security, and maintenance for the 635 Property.

FISCAL IMPACT: While the new lease will not generate significant rent, it requires ACS to assume full responsibility for utilities, services, security, and maintenance costs for the 635 Property, which are currently covered by UMB.

CHANCELLOR'S RECOMMENDATION: That the Finance Committee recommend that the Board of Regents approve UMB entering into a new lease with ACS for 635 W. Lexington Street and terminating the existing lease with ACS for 636 W. Lexington Street, as described above, consistent with the University System of Maryland Policy on Acquisition, Disposition and Leasing of Real Property.

COMMITTEE RECOMMENDATION: RECOMMEND APPROVAL

DATE: 12/4/24

BOARD ACTION:

DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

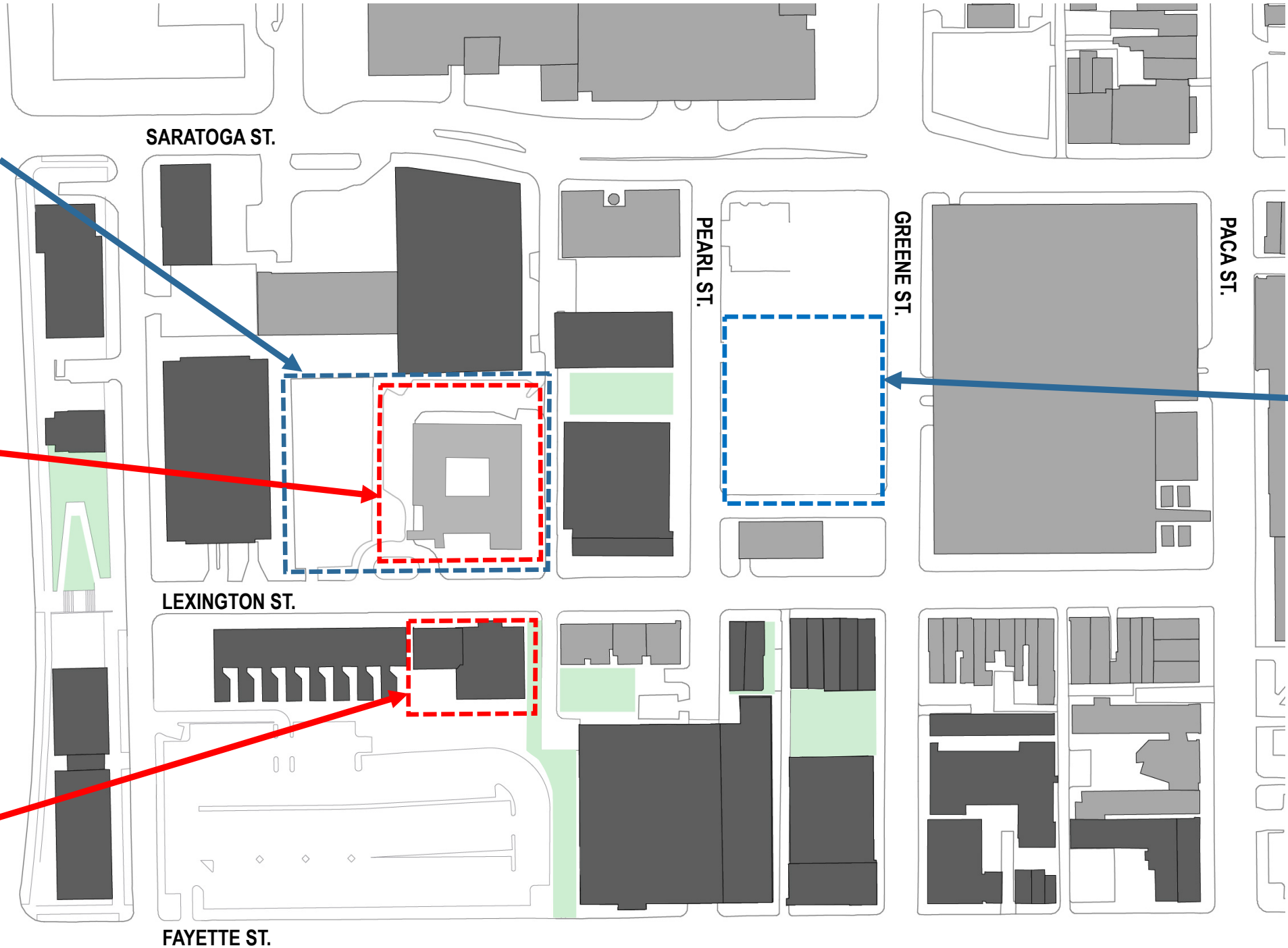
American Cancer Society Lease Swap

Expanded North Campus
Assemblage

Hope Lodge
636 West Lexington St.

Former Ronald
McDonald House
635 West Lexington St.

New UMB
School of Social Work
(Completing Summer 2027)



UMB - EXISTING NON UMB - EXISTING OPEN SPACE

TOPIC: University of Maryland, College Park: Early Renewal and Modification of the Workday Contract

COMMITTEE: Finance

DATE OF COMMITTEE MEETING: December 4, 2024

SUMMARY: The University of Maryland, College Park (UMCP) seeks approval to exercise an early renewal option and modify its contract with Workday, extending it through January 13, 2035. This modification includes up to three additional two-year renewal periods, locking in pricing through 2041.

By way of background, the original award was the result of a competitive solicitation to replace aging systems across UMCP's technology ecosystem, including Human Capital Management, Finance, and Student Systems (ERP tools). The Board of Regents approved the initial five-year contract with Workday on November 13, 2020, with up to three two-year renewal options. With these renewals, the agreement would terminate in 2031, at which point a new contract would be required. The total approved cost was \$53,206,601. Subsequently, UMCP added the Procurement Module in May 2021 for \$444,784 and Strategic Sourcing in January 2024 for \$699,218, as part of the base contract.

The proposed contract adds "Extend Professional," a tool that provides additional functionality allowing UMCP to create custom applications within Workday and improve the integration and data reconciliation with the state payroll, benefits, and accounting systems.

This early renewal and modification of the Workday contract will provide pricing certainty through 2041. Key benefits include a reduction in fees for the remaining years of the contract secured by adding three years, resulting in an overall reduction of \$7.2 million and a net present value (NPV) savings of \$5.5 million.

This request for approval is made pursuant to the University System of Maryland Procurement Policies and Procedures: Section VIII.3.10 for procurements exceeding \$5 million. This item will go to the Board of Public Works, as it was approved by the BPW in 2020 and was presented with the Implementation Partner contract.

VENDOR: Workday, Inc., Pleasanton, CA: CEOs: Carl M. Eschenbach

ALTERNATIVE(S): The University could continue with the current contractual arrangement and exercise options as outlined in the original agreement. However, this approach would result in significantly higher costs than those secured through the early renewal, including a higher price for Extend Professional. Additionally, this approach introduces the risk of a price increase in 2031, which the early renewal would avoid.

FISCAL IMPACT: The early renewal is expected to save UMCP \$7.2 million (or \$5.5 million NPV) compared to the standard renewal for the same 10-year period. The total cost of the 10-year renewal is \$64,309,030, with an NPV of \$50,485,185.

CHANCELLOR'S RECOMMENDATION: That the Finance Committee recommend that the Board of Regents approve for the University of Maryland, College Park to modify the Workday contract to exercise the early renewal, and optional contract renewal periods through 2041.

COMMITTEE RECOMMENDATION: RECOMMEND APPROVAL

DATE: 12/4/24

BOARD ACTION:

DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

TOPIC: University of Maryland, College Park: Sole Source Contract for Food Products, Chemical Products and Non-Food Products for Dining Services

COMMITTEE: Finance

DATE OF COMMITTEE MEETING: December 4, 2024

SUMMARY: The University of Maryland, College Park requests approval for a six-month sole-source contract, valued at approximately \$6.5 million, to provide just-in-time delivery of food, chemical, and non-food products essential to Dining Services operations. The contract term spans January 1 to June 30, 2025.

The University conducted a competitive solicitation in December 2023. Following a thorough review of proposals, UMCP selected a new vendor. The incumbent supplier, US Foodservice (US Foods), was not selected as they were the #2 ranked firm for both technical and financial proposals.

Due to timing issues with the completion of the evaluation process in mid-May, expiration of the former US Foods contract on June 30, 2024, and a bid protest that required resolution, an emergency procurement was issued on June 24, 2024 to US Foods for \$4.9 million. The emergency procurement was intended to allow the University to acquire food, chemical, and non-food products required to serve over 19,000 meals per day in residential dining rooms and 8,000 transactions per day in retail dining operations to students, faculty, staff, and guests during the fall semester.

Based on the complexities of contract conversion, and to ensure a seamless transition from one supplier to another, the University has a need to retain US Foods as a supplier while the transition to a new vendor occurs. The transition involves updating systems, changing of product codes for hundreds of products, testing system integrations, and final migration to the new supplier. It is expected this process will take approximately 6 months to complete.

Dining Services spends \$12-\$15 million per year on purchases from this supplier, and the \$6.5 million dollar value is an estimate to ensure continued access to food products during the transition to the new supplier. Rather than extend the prior emergency contract, the University believes it is appropriate to establish a new contract specifically for the transition. This is the justification for the award of a sole-source contract.

US Foods has agreed to extend the pricing provided under the emergency contract for this six-month transition period and an agreed upon delivery schedule.

This request for approval is made pursuant to University System of Maryland Procurement Policies and Procedures, Section VIII.3.10 for procurements exceeding \$5 million. This contract award will not require the approval of the Board of Public Works as it is a commodities contract.

CONTRACTOR: US Foodservice/US Foods, CEO: Andrew Iacobucci (interim)

ALTERNATIVE(S): Possible alternatives include: 1) extending and increasing the dollar amount of the emergency contract to cover the transition period, although the situation is no longer of an emergency nature; or 2) declining to issue a sole-source award to US Foods for the transition, which would disrupt Dining Services' ability to serve students and guests on campus.

FISCAL IMPACT: Estimated spend for the six-month contract period is \$6.5 million. Pricing and mark-ups for the contract term have been negotiated at the same rate as the emergency contract.

CHANCELLOR'S RECOMMENDATION: That the Finance Committee recommend that the Board of Regents approve for University of Maryland, College Park the sole-source contract award as described above, for a six-month period at a cost of approximately \$6.5 million.

COMMITTEE RECOMMENDATION: RECOMMEND APPROVAL DATE: 12/4/24

BOARD ACTION: DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

TOPIC: USM Sponsored Supplemental Retirement Plans – 403(b) Plan and 457(b) Plan Restatement

COMMITTEE: Finance

DATE OF COMMITTEE MEETING: December 4, 2024

SUMMARY: The USM Sponsored SRA plans, 403(b) and 457(b), are being amended and restated to make certain legally required and discretionary changes under the Setting Every Community Up for Retirement Enhancement (SECURE) Act of 2019, the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020, and the SECURE 2.0 Act of 2022. These updates also include additional discretionary modifications that enhance plan operation and compliance.

The plan restatements have been prepared by IceMiller, USM's external employee benefits legal counsel, at the request of the Office of the Attorney General. A summary of the principal changes to each plan is provided in the attached letter from IceMiller.

In addition to the plan amendments, IceMiller has drafted revised resolutions to update the composition of the Administrative Committees responsible for overseeing the SRA plans. The proposed resolution expands the committee membership from four to seven members, structured as follows:

Committee Members:

- USM Associate Vice Chancellor for Human Resources, or designee
- USM Director of Human Resources
- One Director of Human Resources from a USM constituent institution, designated by the Senior Vice Chancellor for Administration and Finance
- Up to four additional individuals appointed by the USM Senior Vice Chancellor for Administration and Finance, either by name or position

ALTERNATIVE(S): Due to the mandatory nature of these regulatory amendments, there are no viable alternatives. The amendments ensure continued tax-qualification of the plans; failure to adopt them may risk plan disqualification.

FISCAL IMPACT: The restatement of the SRA plans has no fiscal impact.

CHANCELLOR'S RECOMMENDATION: That the Committee on Finance recommend that the Board of Regents approve the amended and restated plan documents and adopt the resolutions establishing the expanded Administrative Committees for the SRA plans.

COMMITTEE RECOMMENDATION: RECOMMEND APPROVAL

DATE: 12/4/24

BOARD ACTION:

DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

October 29, 2024

WRITER'S DIRECT NUMBER: 317-236-5888
EMAIL: Tara.Sciscoe@icemiller.comgsamuel@usmd.edu

George Samuel
Director of Human Resources
University System of Maryland
3300 Metzert Road
Adelphi, MD 20783

RE: Supplemental Retirement Plan Changes

Dear George:

This letter is to briefly summarize the key changes to the University System of Maryland Supplemental 403(b) Retirement Plan (“403(b) Plan”) and the University System of Maryland Supplemental Deferred Compensation Plan (“457(b) Plan”). The Plans are being amended and restated effective January 1, 2024, except as otherwise stated below, to make certain legally required and discretionary changes under the Setting Every Community Up for Retirement Enhancement (“SECURE”) Act of 2019, the Coronavirus Aid, Relief, and Economic Security (“CARES”) Act of 2020, and the SECURE 2.0 Act of 2022, and to make certain other discretionary changes.

403(b) PLAN AMENDMENTS

The key changes to the 403(b) Plan include the following:

1. **Deferral Elections.** The Plan was amended to remove the requirement that elective deferrals be made in a flat dollar amount to give USM flexibility in the future to allow elections as a percentage of compensation.
2. **Rollovers.** The Plan was amended effective January 1, 2025, to allow terminated participants (in addition to participants who are employees) to make rollover contributions to the Plan. This is an optional amendment to benefit participants who want to consolidate assets at retirement.
3. **Increased Catch-Up Contributions.** The Plan was amended effective January 1, 2025, to permit higher catch-up limits for the years in which a participant attains ages 60, 61, 62, and 63, as permitted under SECURE 2.0.
4. **Higher Earner Catch-Up Contributions.** The Plan was amended effective January 1, 2026, to provide that higher earner participants can make age-based catch-up contributions

to the Plan on a Roth basis only. This change is mandatory under SECURE 2.0 in order to continue to provide age-based catch-up contributions under the Plan.

5. **Correction of Excess Contributions.** The Plan was amended to add an ordering rule for the return of excess contributions in order to facilitate the correction of errors.
6. **Small Account Cash-Outs.** The Plan was amended to increase the dollar limit for mandatory cash-outs to terminated participants from \$5,000 to \$7,000. This is an optional change under SECURE 2.0 that is intended to reduce situations in which participants cannot be located when distributions are required.
7. **Financial Hardships.** The Plan was amended to make several optional changes to the financial hardship provisions under the Plan:
 - The Plan was amended to provide that financial hardship distributions can be taken from both elective deferrals and the earnings on those elective deferrals. This is an optional change under SECURE 2.0 that will benefit participants and reduce administration.
 - The Plan was amended to provide that financial hardship distributions cannot be taken from deselected vendors, which makes compliance easier since deselected vendors are much less likely to provide the information needed to coordinate financial hardship distributions in multi-vendor plans.
 - The Plan was amended to provide that a vendor can rely on self-certification of financial hardship rather than require substantiation, as permitted under SECURE 2.0. This is an optional change under SECURE 2.0 that reduces administrative complexity.
8. **Coronavirus-Related Distributions.** The Plan was amended to address the temporary right to take a coronavirus-related distribution in 2020.
9. **Required Minimum Distributions.** The Plan was amended to make several mandatory changes under SECURE Act, CARES Act, and SECURE 2.0 Act to the required minimum distribution provisions under the Plan:
 - The required beginning date for minimum required distributions was increased from age 72 to 73 effective January 1, 2023, and then from age 73 to 75 effective January 1, 2033.
 - Roth contribution accounts are excluded from the required minimum distribution rules during the participant's lifetime.
 - Distributions can no longer be made over a beneficiary's life expectancy at the death of a participant, unless the beneficiary is a spouse, minor child, not more than 10 years younger than the participant, or disabled or chronically ill.

- The spousal election provisions to be treated as the employee for specified purposes are incorporated into the Plan.
 - The temporary suspension of RMDs for 2020.
10. **Loans.** The Plan was amended to add the temporary increase in the loan amount and the temporary extension of loan repayments for 2020 under the CARES Act.
 11. **Plan-to-Plan Transfers.** The Plan was amended to provide for plan-to-plan transfers to and from the MSRP 403(b) Plan, to memorialize actual operation.

457(b) PLAN AMENDMENTS

The key changes to the 457(b) Plan include the following:

1. **Roth Contributions.** The Plan was amended to reflect that Roth contributions will become effective as soon as administratively practicable after the date approved by the Board, so that the Plan is not required to be amended when Roth contributions become available.
2. **Elimination of First Day of the Month Rule.** The Plan was amended so that effective January 1, 2023, deferrals (and changes to deferrals) will begin as soon as administratively practicable after the Salary Reduction Agreement is returned to USM. This change reflects SECURE 2.0's elimination of the requirement that deferrals become effective no earlier than the first day of the next month.
3. **Rollovers.** The Plan was amended effective January 1, 2025, to allow terminated participants (in addition to participants who are employees) to make rollover contributions to the Plan. This is an optional amendment to benefit participants who want to consolidate assets at retirement.
4. **Increased Catch-Up Contributions.** The Plan was amended effective January 1, 2025, to permit higher catch-up limits for the years in which a participant attains ages 60, 61, 62, and 63, as permitted under SECURE 2.0.
5. **Higher Earner Catch-Up Contributions.** The Plan was amended effective January 1, 2026, to provide that higher earner participants can make age-based catch-up contributions to the Plan on a Roth basis only. This change is mandatory under SECURE 2.0 in order to continue to provide age-based catch-up contributions under the Plan.
6. **Small Account Cash-Outs.** The Plan was amended to increase the dollar limit for mandatory cash-outs to terminated participants from \$5,000 to \$7,000. This is an optional change under SECURE 2.0 that is intended to reduce situations in which participants cannot be located when distributions are required.

7. **Unforeseeable Emergency Distributions.** The Plan was amended to provide that unforeseeable emergency distributions cannot be taken from deselected vendors, which makes compliance easier since deselected vendors are much less likely to provide the information needed to coordinate financial hardship distributions in multi-vendor plans.
8. **Coronavirus-Related Distributions.** The Plan was amended to address the temporary right to take a coronavirus-related distribution in 2020.
9. **Required Minimum Distributions.** The Plan was amended to make several mandatory changes under SECURE Act, CARES Act, and SECURE 2.0 Act to the required minimum distribution provisions under the Plan:
 - The required beginning date for minimum required distributions was increased from age 72 to 73 effective January 1, 2023, and then from age 73 to 75 effective January 1, 2033.
 - Roth contribution accounts are excluded from the required minimum distribution rules during the participant's lifetime.
 - Distributions can no longer be made over a beneficiary's life expectancy at the death of a participant, unless the beneficiary is a spouse, minor child, not more than 10 years younger than the participant, or disabled or chronically ill.
 - The spousal election provisions to be treated as the employee for specified purposes are incorporated into the Plan.
 - The temporary suspension of RMDs for 2020.
10. **Loans.** The Plan was amended to add the temporary increase in the loan amount and the temporary extension of loan repayments for 2020 under the CARES Act.
11. **Plan-to-Plan Transfers.** The Plan was amended to provide for plan-to-plan transfers to and from the MSRP 457(b) Plan, to memorialize actual operation.

Very truly yours,

ICE MILLER LLP

Tara S. Sciscoe

UNIVERSITY SYSTEM OF MARYLAND BOARD OF REGENTS

401(a) PLAN DELEGATION RESOLUTIONS

WHEREAS, the Board of Regents of the University System of Maryland ("Board") adopted the State of Maryland Higher Education Institutions Supplemental 401(a) Matching Plan and Trust ("Plan"), a defined contribution plan established by the State of Maryland under Section 401(a) of the Internal Revenue Code ("Code"), pursuant to Sections 30-401 and 35-701 of the Annotated Code of Maryland;

WHEREAS, the State of Maryland most recently amended and restated the Plan effective January 1, 2016;

WHEREAS, the Board is the fiduciary for the Plan to the extent mandated by law;

WHEREAS, the Board previously established the Plan Administrative Committee ("Committee") and designated the Committee to serve as Administrator of the Plan;

WHEREAS, the Board previously delegated certain powers from the Board to the Administrator; and

WHEREAS, the Board desires to restate the powers delegated to the Administrator.

IT IS THEREFORE RESOLVED:

1. The Committee shall consist of the following persons:
 - (i) University System of Maryland ("USM") Associate Vice Chancellor for Human Resources or designee;
 - (ii) USM Director of Human Resources;
 - (iii) one Director of Human Resources for a constituent institution designated by the Senior Vice Chancellor for Administration and Finance; and
 - (iv) up to four individuals designated by name or position by the USM Senior Vice Chancellor for Administration and Finance.

The USM Director of Human Resources shall serve as chair of this Committee. Committee decisions shall be made by majority vote, and, in the event the members of the Committee are unable to agree on a decision due to a tie in the voting, the chair shall act to break such tie by casting an additional vote.

2. The Board designates the Committee to serve as the Administrator of the Plan; provided, however, that the Board shall retain the sole and absolute authority to amend the Plan and to terminate the Plan.

3. Except as provided herein, the Board delegates to the Administrator all of the powers and duties of Administrator as set forth under the Plan, in addition to and including any other powers and duties that may be assigned to the Administrator under the Plan from time to time, which shall include, but not be limited to, the power to:

(i) control and manage the operation and administration of the Plan and to accept service of legal process;

(ii) make rules and regulations with respect to the Plan not inconsistent with the Plan or the Internal Revenue Code, and to amend or rescind such rules and regulations;

(iii) determine, consistently therewith, all questions of law or fact that may arise as to the eligibility, benefits, status, and rights of any person claiming benefits or rights under the Plan, including without limitation, participants, former participants, surviving spouses of participants, beneficiaries, employees, and former employees;

(iv) direct the service providers to make distributions and/or other payments to participants, their beneficiaries, and other persons as the Administrator may determine pursuant to the terms of the Plan;

(v) subject to and consistent with the Internal Revenue Code and State law, construe and interpret the Plan and to determine all questions of fact or law arising hereunder;

(vi) correct any defects, supply any omissions, or reconcile any inconsistencies in the Plan to such extent as the Administrator deems expedient;

(vii) appoint, or remove and replace, service providers, agents, employees, and others acting on its behalf with respect to the Plan;

(viii) negotiate and execute such contracts and agreements with service providers to permit operation and funding of the Plan in accordance with the terms of the Plan document, the Internal Revenue Code, and State law;

(ix) maintain all records of the Plan and to file all reports and other information that might be required, and to comply with all disclosure requirements;

(x) adopt, review, and revise as needed an investment policy statement for the Plan;

(xi) select, remove and/or replace investment options under the Plan that are available for selection by participants and beneficiaries, including the power to select a default investment option; and

(xii) assess reasonable charges against participant accounts to pay Plan expenses.

The Administrator in its sole discretion may, in turn, delegate one or more of its powers under this delegation of power pursuant to the terms of the Plan.

4. The delegation of powers and duties set forth herein shall continue until revoked or changed by resolution of the Board, even if the Plan is subsequently amended or restated from time to time.

5. The Committee members shall be entitled to indemnification with respect to their responsibilities under this delegation as provided under Sections 30-210.1 and 30-401(e) of the State Personnel and Pensions Article of the Annotated Code of Maryland.

6. The Board further delegates its reserved powers under the Plan to the Finance Committee of the Board, and the Administrator shall make such reports required by the Plan to the Finance Committee of the Board at least annually. Additionally, the Administrator shall report to the Finance Committee of the Board any significant change in the operations of the Plan, including but not limited to: (i) a change in the service providers which are statutorily eligible to serve as providers to the Plan; (ii) selection of a third party to perform administrative duties for the Plan, except as specified in service provider contracts; or (iii) suspected or proven criminal activity or fraud relating to the operation of the Plan or a service provider.

UNIVERSITY SYSTEM OF MARYLAND BOARD OF REGENTS

403(b) PLAN DELEGATION RESOLUTIONS

WHEREAS, the Board of Regents of the University System of Maryland ("Board") adopted the University System of Maryland Supplemental 403(b) Retirement Plan ("Plan"), a defined contribution plan under Section 403(b) of the Internal Revenue Code ("Code"), pursuant to Section 30-401 of the State Personnel and Pensions Article of the Annotated Code of Maryland;

WHEREAS, the Board most recently amended and restated the Plan effective January 1, 2024;

WHEREAS, the Board is the fiduciary for the Plan to the extent mandated by law;

WHEREAS, the Board previously established the Plan Administrative Committee ("Committee") and designated the Committee to serve as Administrator of the Plan;

WHEREAS, the Board previously delegated certain powers from the Board to the Administrator; and

WHEREAS, the Board desires to restate the powers delegated to the Administrator.

IT IS THEREFORE RESOLVED:

1. The Committee shall consist of the following persons:
 - (i) University System of Maryland ("USM") Associate Vice Chancellor for Human Resources or designee;
 - (ii) USM Director of Human Resources;
 - (iii) one Director of Human Resources for a constituent institution designated by the Senior Vice Chancellor for Administration and Finance; and
 - (iv) up to four individuals designated by name or position by the USM Senior Vice Chancellor for Administration and Finance.

The USM Director of Human Resources shall serve as chair of this Committee. Committee decisions shall be made by majority vote, and, in the event the members of the Committee are unable to agree on a decision due to a tie in the voting, the chair shall act to break such tie by casting an additional vote.

2. The Board designates the Committee to serve as the Administrator of the Plan; provided, however, that the Board shall retain the sole and absolute authority to amend the Plan and to terminate the Plan.

3. Except as provided herein, the Board delegates to the Administrator all of the powers

and duties of Administrator as set forth under the Plan, in addition to and including any other powers and duties that may be assigned to the Administrator under the Plan from time to time, which shall include, but not be limited to, the power to:

- (i) control and manage the operation and administration of the Plan and to accept service of legal process;
- (ii) make rules and regulations with respect to the Plan not inconsistent with the Plan or the Internal Revenue Code, and to amend or rescind such rules and regulations;
- (iii) determine, consistently therewith, all questions of law or fact that may arise as to the eligibility, benefits, status, and rights of any person claiming benefits or rights under the Plan, including without limitation, participants, former participants, surviving spouses of participants, beneficiaries, employees, and former employees;
- (iv) direct the service providers to make distributions and/or other payments to participants, their beneficiaries, and other persons as the Administrator may determine pursuant to the terms of the Plan;
- (v) subject to and consistent with the Internal Revenue Code and State law, construe and interpret the Plan and to determine all questions of fact or law arising hereunder;
- (vi) correct any defects, supply any omissions, or reconcile any inconsistencies in the Plan to such extent as the Administrator deems expedient;
- (vii) appoint, or remove and replace, service providers, agents, employees, and others acting on its behalf with respect to the Plan;
- (viii) negotiate and execute such contracts and agreements with service providers to permit operation and funding of the Plan in accordance with the terms of the Plan document, the Internal Revenue Code, and State law;
- (ix) maintain all records of the Plan and to file all reports and other information that might be required, and to comply with all disclosure requirements;
- (x) adopt, review, and revise as needed an investment policy statement for the Plan;
- (xi) select, remove, and/or replace investment options under the Plan that are available for selection by participants and beneficiaries, including the power to select a default investment option; and
- (xii) assess reasonable charges against participant accounts to pay Plan expenses.

The Administrator in its sole discretion may, in turn, delegate one or more of its powers under this delegation of power pursuant to the terms of the Plan.

4. The delegation of powers and duties set forth herein shall continue until revoked or changed by resolution of the Board, even if the Plan is subsequently amended or restated from time to time.

5. The Committee members shall be entitled to indemnification with respect to their responsibilities under this delegation as provided under Sections 30-210.1 and 30-401(e) of the State Personnel and Pensions Article of the Annotated Code of Maryland.

6. The Board further delegates its reserved powers under the Plan to the Finance Committee of the Board, and the Administrator shall make such reports required by the Plan to the Finance Committee of the Board at least annually. Additionally, the Administrator shall report to the Finance Committee of the Board any significant change in the operations of the Plan, including but not limited to: (i) a change in the service providers which are statutorily eligible to serve as providers to the Plan; (ii) selection of a third party to perform administrative duties for the Plan, except as specified in service provider contracts; or (iii) suspected or proven criminal activity or fraud relating to the operation of the Plan or a service provider.

UNIVERSITY SYSTEM OF MARYLAND BOARD OF REGENTS

457(b) PLAN DELEGATION RESOLUTIONS

WHEREAS, the Board of Regents of the University System of Maryland ("Board") adopted the University System of Maryland Deferred Compensation Plan and Trust ("Plan"), an eligible deferred compensation plan under Section 457(b) of the Internal Revenue Code ("Code"), pursuant to Section 30-401 of the State Personnel and Pensions Article of the Annotated Code of Maryland;

WHEREAS, the Board most recently amended and restated the Plan effective January 1, 2024;

WHEREAS, the Board is the fiduciary for the Plan to the extent mandated by law;

WHEREAS, the Board previously established the Plan Administrative Committee ("Committee") and designated the Committee to serve as Administrator of the Plan;

WHEREAS, the Board previously delegated certain powers from the Board to the Administrator; and

WHEREAS, the Board desires to restate the powers delegated to the Administrator.

IT IS THEREFORE RESOLVED:

1. The Committee shall consist of the following persons:
 - (i) University System of Maryland ("USM") Associate Vice Chancellor for Human Resources or designee;
 - (ii) USM Director of Human Resources;
 - (iii) one Director of Human Resources for a constituent institution designated by the Senior Vice Chancellor for Administration and Finance; and
 - (iv) up to four individuals designated by name or position by the USM Senior Vice Chancellor for Administration and Finance.

The USM Director of Human Resources shall serve as chair of this Committee. Committee decisions shall be made by majority vote, and, in the event the members of the Committee are unable to agree on a decision due to a tie in the voting, the chair shall act to break such tie by casting an additional vote.

2. The Board designates the Committee to serve as the Administrator of the Plan; provided, however, that the Board shall retain the sole and absolute authority to amend the Plan and to terminate the Plan.

3. Except as provided herein, the Board delegates to the Administrator all of the powers

and duties of Administrator as set forth under the Plan, in addition to and including any other powers and duties that may be assigned to the Administrator under the Plan from time to time, which shall include, but not be limited to, the power to:

- (i) control and manage the operation and administration of the Plan and to accept service of legal process;
- (ii) make rules and regulations with respect to the Plan not inconsistent with the Plan or the Internal Revenue Code, and to amend or rescind such rules and regulations;
- (iii) determine, consistently therewith, all questions of law or fact that may arise as to the eligibility, benefits, status, and rights of any person claiming benefits or rights under the Plan, including without limitation, participants, former participants, surviving spouses of participants, beneficiaries, employees, and former employees;
- (iv) direct the service providers to make distributions and/or other payments to participants, their beneficiaries, and other persons as the Administrator may determine pursuant to the terms of the Plan;
- (v) subject to and consistent with the Internal Revenue Code and State law, construe and interpret the Plan and to determine all questions of fact or law arising hereunder;
- (vi) correct any defects, supply any omissions, or reconcile any inconsistencies in the Plan to such extent as the Administrator deems expedient;
- (vii) appoint, or remove and replace, service providers, agents, employees, and others acting on its behalf with respect to the Plan;
- (viii) negotiate and execute such contracts and agreements with service providers to permit operation and funding of the Plan in accordance with the terms of the Plan document, the Internal Revenue Code, and State law;
- (ix) maintain all records of the Plan and to file all reports and other information that might be required, and to comply with all disclosure requirements;
- (x) adopt, review, and revise as needed an investment policy statement for the Plan;
- (xi) select, remove, and/or replace investment options under the Plan that are available for selection by participants and beneficiaries, including the power to select a default investment option; and
- (xii) assess reasonable charges against participant accounts to pay Plan expenses.

The Administrator in its sole discretion may, in turn, delegate one or more of its powers under this delegation of power pursuant to the terms of the Plan.

4. The delegation of powers and duties set forth herein shall continue until revoked or changed by resolution of the Board, even if the Plan is subsequently amended or restated from time to time.

5. The Committee members shall be entitled to indemnification with respect to their responsibilities under this delegation as provided under Sections 30-210.1 and 30-401(e) of the State Personnel and Pensions Article of the Annotated Code of Maryland.

6. The Board further delegates its reserved powers under the Plan to the Finance Committee of the Board, and the Administrator shall make such reports required by the Plan to the Finance Committee of the Board at least annually. Additionally, the Administrator shall report to the Finance Committee of the Board any significant change in the operations of the Plan, including but not limited to: (i) a change in the service providers which are statutorily eligible to serve as providers to the Plan; (ii) selection of a third party to perform administrative duties for the Plan, except as specified in service provider contracts; or (iii) suspected or proven criminal activity or fraud relating to the operation of the Plan or a service provider.

**UNIVERSITY SYSTEM OF MARYLAND
SUPPLEMENTAL 403(b) RETIREMENT PLAN**

Amended and Restated Effective January 1, 2024

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**UNIVERSITY SYSTEM OF MARYLAND
SUPPLEMENTAL 403(b) RETIREMENT PLAN**

**ARTICLE I.
ESTABLISHMENT AND RESTATEMENT OF PLAN**

Section 1.01. Plan Establishment and History.

(a) The University System of Maryland is a public university system established under Maryland law and an educational organization described in Section 170(b)(1)(A)(ii) of the Internal Revenue Code of 1986, as amended ("Code"). The Board of Regents of the University System of Maryland ("Board") established the University System of Maryland Supplemental 403(b) Retirement Plan ("Plan") pursuant to Code Section 403(b) and Section 30-401 of the State Personnel and Pensions Article of the Annotated Code of Maryland, to provide eligible employees the opportunity to supplement their retirement benefits through voluntary contributions.

(b) The Plan is, and is intended to remain, a defined contribution plan under Code Section 403(b). The Plan is a governmental plan within the meaning of Code Section 414(d) and Section 3(32) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). As a governmental plan, ERISA does not apply.

(c) The Plan was most recently amended and restated effective January 1, 2020.

Section 1.02. Plan Restatement.

(a) The Plan is now being amended and restated effective January 1, 2024, except as otherwise specifically provided herein, to make certain required and discretionary changes.

(b) Except as otherwise specifically provided herein, the Plan as hereinafter set forth establishes the rights and obligations with respect to individuals who are Employees on and after January 1, 2024, and to transactions under the Plan on and after January 1, 2024. The rights and benefits, if any, of individuals who are not Employees on or after January 1, 2024, shall be determined in accordance with the terms and provisions of the Plan that were in effect on the date of their Severance from Employment, except as otherwise specifically provided herein or in a subsequent amendment.

Section 1.03. Plan Funding. The Plan is funded exclusively through the purchase of Investment Arrangements in accordance with the requirements of the Code. The terms and conditions of the Investment Arrangements shall be incorporated into this Plan; provided, however, that to the extent that there is any conflict between the terms of the Investment Arrangements and the terms of the Plan, the terms of the Plan shall govern, except as otherwise specifically provided herein.

ARTICLE II.
RULES OF CONSTRUCTION AND DEFINITIONS

Section 2.01. Rules of Construction and Governing Law.

(a) This Plan shall be interpreted, enforced, and administered in accordance with the Code and, when not inconsistent with the Code, or expressly provided otherwise herein, the laws of the State of Maryland without regard to conflict of law principles.

(b) Words used herein in the masculine gender shall be construed to include the feminine gender where appropriate, and *vice versa*, and words used herein in the singular or plural shall be construed as being in the plural or singular, where appropriate, and *vice versa*.

(c) The headings and subheadings in the Plan are inserted for convenience of reference only and are not to be considered in the construction of any provision of the Plan.

(d) If any provision of the Plan shall be held to violate the Code or be illegal or invalid for any other reason, that provision shall be deemed to be null and void, but the invalidation of that provision shall not otherwise impair or affect the Plan.

(e) In resolving any conflict between provisions of the Plan and in resolving any other uncertainty as to the meaning or intention of any provision of the Plan, the interpretation that causes the Plan to (i) constitute a defined contribution plan under the provisions of Code Section 403(b), (ii) be a governmental plan as defined in ERISA Section 3(32) and Code Section 414(d), and (iii) comply with all applicable requirements of the Code, shall prevail over any different interpretation.

Section 2.02. Definitions. When the initial letter of a word or phrase is capitalized herein, the meaning of such word or phrase shall be as follows:

(a) "Account" means the separate accounts maintained for each Participant and Beneficiary under the Plan. The following Accounts shall be established for a Participant or Beneficiary, if applicable:

(1) A Pre-Tax Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Pre-Tax Contributions pursuant to Section 4.01. Such Account may be further divided into a pre-1987 Pre-Tax Contribution Account reflecting Pre-Tax Contributions made to the Plan prior to 1987 and a post-1986 Pre-Tax Contribution Account reflecting Pre-Tax Contributions made to the Plan after 1986, including any earnings on the Pre-1987 Pre-Tax Contributions.

(2) A Roth Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Roth Contributions pursuant to Section 4.01.

(3) A Post-Severance Employer Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Post-Severance Employer Contributions, if any, pursuant to Section 4.02.

(4) A Rollover Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Rollover Contributions pursuant to Section 4.03.

(5) A Transfer Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to plan-to-plan transfers pursuant to Section 12.01.

(b) "Administrator" means the Administrative Committee as designated by the Board, or such other person, persons, or entity designated by the Board, to perform the administrative duties and functions under the Plan.

(c) "Allocable Income" means the sum of the allocable gain or loss for the year or partial year determined in accordance with Code Section 402(g) and the regulations promulgated thereunder.

(d) "Annual Addition" means annual addition as defined in Code Section 415(c) and as modified in Code Sections 415(l)(1) and 419A(d)(2). In general, Code Section 415(c) defines annual addition as the sum of the following amounts credited to a Participant's Account for the Limitation Year under this Plan and to a Participant's account under any other Code Section 401(a) defined contribution plan maintained by the Employer (or, if required by Code Section 415 and the regulations thereunder, to any other defined contribution plan):

(1) employee contributions;

(2) employer contributions;

(3) forfeitures;

(4) allocations under a simplified employee pension;

(5) amounts allocated to an individual medical account, as defined in Code Section 415(l)(2), which is part of a pension or annuity plan maintained by the Employer or a Related Employer, or both, as applicable; and

(6) mandatory employee contributions to a defined benefit plan maintained by the Employer, unless the contributions are picked up by the Employer pursuant to Code Section 414(h)(2).

Annual Additions shall not include (i) elective deferrals made by a Participant who is age 50 or older in accordance with Code Section 414(v), (ii) excess elective deferrals distributed in accordance with Treasury Regulation Section 1.402(g)-1(e)(2), (iii) rollover contributions, or (iv) transfer contributions.

(e) "Annuity Contract" means a nontransferable contract as defined in Code Sections 403(b)(1) and 401(g), established for Participants by the Employer, or by each Participant individually, that is issued by a Vendor who is an insurance company qualified to issue annuities in a state and that includes payment in the form of an annuity.

(f) "Applicable Form" means the appropriate form as designated and furnished by the Administrator or Vendor to make an election or provide a notice as required by the Plan. If a written election or consent is not specifically required by the Code, the Administrator or Vendor may prescribe a verbal, electronic, or telephonic form in lieu of or in addition to a written form.

(g) "Beneficiary" means the person, company, trustee, or estate designated by the Participant on the Applicable Form to receive any benefits payable under the Plan in the event of the Participant's death. A designation of an individual as a Beneficiary shall remain in effect until affirmatively revoked by the Participant on a subsequent Applicable Form and, unless otherwise provided in the applicable Investment Arrangement, if no designated Beneficiary survives the Participant or there is no Beneficiary designated, the Participant's surviving Spouse shall be the Beneficiary or, if there is no surviving Spouse, the Participant's estate shall be the Beneficiary. Beneficiary also means an alternate payee within the meaning of Code Section 414(p)(8).

(h) "Board" means the Board of Regents of the University System of Maryland.

(i) "Code" means the Internal Revenue Code of 1986, as amended from time to time.

(j) "Compensation" means all cash compensation for services to the Employer, including salary, wages, fees, commissions, bonuses, and overtime pay, which is includible in the Employee's gross income for the calendar year, plus amounts that would be cash compensation for services to the Employer includible in the Employee's gross income for the calendar year but for a compensation reduction election under Code Section 125, 132(f), 401(k), 403(b), or 457(b) (including an election to reduce compensation in order to make Elective Deferrals under the Plan). Compensation does not include amounts "picked up" by the Employer within the meaning of Code Section 414(h). Compensation includes any compensation described in paragraph (1) or (2), provided it is paid by the later of 2½ months after the Employee's Severance from Employment with the Employer or the end of the calendar year in which the Employee has a Severance from Employment with the Employer:

(1) any payment that would have been paid to the Employee prior to a Severance from Employment if the Employee continued in employment with the Employer and that is regular compensation for services during the Employee's regular working hours, compensation for services outside the Employee's regular working hours (such as overtime or shift differential), commissions, bonuses, or other similar payments; and

(2) a payment for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if employment had continued and the payment would be Compensation if paid prior to the Employee's Severance from Employment, and only if the Employee separately elects for such payment to be reduced on his or her Salary Reduction Agreement pursuant to Section 4.01.

Notwithstanding the above, to the extent applicable, Compensation shall not exceed the limits under Code Section 401(a)(17), as increased for the Cost of Living Adjustment for the Plan Year. Any payment that is not described in paragraph (1) or (2) above is not considered

Compensation if paid after Severance from Employment. Thus, for example, Compensation does not include amounts paid after Severance from Employment that are severance pay or unfunded nonqualified deferred compensation.

(k) "Contributions" mean Pre-Tax Contributions, Roth Contributions, Post-Severance Employer Contributions, Rollover Contributions, and plan-to-plan transfers.

(l) "Coronavirus-Related Distribution" means a distribution made on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before December 31, 2020, to a Qualified Individual in accordance with Section 8.04.

(m) "Cost of Living Adjustment" means the cost of living adjustment prescribed by the Secretary of the Treasury under Code Section 401(a)(17), 402(g), 414(v), or 415(d) for any applicable year.

(n) "Custodial Account" means the group or individual custodial account or accounts, as defined in Code Section 403(b)(7), established by the Administrator, or by each Participant individually, with a Vendor to hold assets of the Plan.

(o) "Designated Beneficiary" means an individual Beneficiary within the meaning of Code Section 401(a)(9)(E)(i).

(p) "Disabled" means disabled within the meaning of Code Section 72(m)(7).

(q) "Elective Deferral" means Pre-Tax Contributions, Roth Contributions, and any other elective deferral as defined by Code Section 402(g)(3).

(r) "Eligible Designated Beneficiary" means a Designated Beneficiary who meets the additional criteria under Code Section 401(a)(9)(E)(ii).

(s) "Employee" means a common law employee of the Employer, other than non-resident aliens with no U.S. source income or students performing services described in Code Section 3121(b)(10). Employee shall not include an employee unless his or her Compensation for performing services is paid by the Employer.

(t) "Employer" means one of the following Public Schools:

- (1) the University System of Maryland Office;
- (2) Bowie State University;
- (3) Coppin State University;
- (4) Frostburg State University;
- (5) Salisbury University;
- (6) Towson University;

- (7) University of Baltimore;
- (8) University of Maryland, Baltimore;
- (9) University of Maryland, Baltimore County;
- (10) University of Maryland, College Park;
- (11) University of Maryland, Eastern Shore;
- (12) University of Maryland University College;
- (13) University of Maryland Biotechnology Institute;
- (14) University System of Maryland Center for Environmental Science; and

(15) any other center, component, or institute established and operated by the University System of Maryland in accordance with its mission pursuant to Section 12-101 of the Annotated Code of Maryland (1978, 2006 Repl. Vol.).

(u) "Excess Annual Additions" mean, except as provided in Code Section 414(v), that portion of a Participant's Contributions to the Plan and contributions to another qualified defined contribution plan sponsored by the Employer (or, if required by Code Section 415 and the regulations thereunder, to any other defined contribution plan) for a Limitation Year which exceeds the limits of Code Section 415.

(v) "Excess Elective Deferrals" mean, except as provided in Code Section 414(v), that portion of a Participant's Pre-Tax Contributions and/or Roth Contributions to the Plan and Elective Deferrals to any other 403(b) or 401(k) plan maintained by the Employer or a Related Employer for a Plan Year which exceeds the limits of Code Section 402(g).

(w) "Financial Hardship Distribution" means a distribution made in accordance with Section 8.03 to a Participant on account of an immediate and heavy financial need.

(x) "Former Vendor" means a service provider that was an approved Vendor under the Plan, but that ceases to be an approved Vendor under the Plan, that continues to hold Plan assets. Notwithstanding the preceding, a Former Vendor shall not include a service provider that ceased to be eligible to receive contributions under the Plan prior to January 1, 2005.

(y) "HEART" means the Heroes Earnings Assistance and Relief Tax Act of 2008, as amended from time to time.

(z) "Includible Compensation" means all compensation received by an Employee from the Employer that is includible in his or her gross income for federal income tax purposes (computed without regard to Code Section 911) for the most recent period that is a Year of Service which precedes the taxable year by no more than five years within the meaning of Code Section 403(b)(3). Includible Compensation also includes any amounts excludable from taxable income because of an election (including Elective Deferrals under the Plan) under Code Sections

403(b), 457(b), 125, 401(k), or 132(f). Includible Compensation includes compensation paid by 2½ months after the later of an Employee's Severance from Employment or the end of the Limitation Year that includes the date of the Employee's Severance from Employment, if:

(1) the payment is regular compensation for services during the Employee's regular working hours, or compensation for services outside the Employee's regular working hours (e.g., overtime or shift differential), commissions, bonuses, or other similar payments and the payment would have been paid to the Employee prior to a Severance from Employment if the Employee had continued in employment with the Employer;

(2) the payment is for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if the Employee had continued in employment; or

(3) the payment is made to the Employee under a nonqualified unfunded deferred compensation plan, but only if the payment would have been paid to the Employee at the same time if the Employee had continued in employment with the Employer and only to the extent that the payment is includible in the Employee's gross income.

Includible Compensation does not include any amounts "picked up" by the Employer within the meaning of Code Section 414(h). Includible Compensation is determined without regard to any community property laws. To the extent applicable, Includible Compensation shall not exceed the limits under Code Section 401(a)(17), increased for the Cost of Living Adjustment in effect for the Plan Year.

(aa) "Investment Arrangement" means an Annuity Contract or Custodial Account that satisfies the requirements of Treasury Regulation Section 1.403(b)-3 and that is issued or established for funding amounts held under the Plan and specifically approved by the Administrator for use under the Plan.

(bb) "Investment Options" mean the investment funds available under the Investment Arrangements provided by the Vendor(s) and specifically approved by the Administrator, in its sole and absolute discretion, for use under this Plan.

(cc) "Limitation Year" means the Plan Year; provided, however, that if the Participant is in control of an employer within the meaning of Treasury Regulation Section 1.415(a)-1(f), the Limitation Year is the limitation year of that employer.

(dd) "Participant" means any Employee who is or may become eligible to receive a benefit of any type under the Plan. A Participant shall also mean, when appropriate to the context, a former Employee who is eligible to receive a benefit of any type under the Plan.

(ee) "Plan" means the University System of Maryland Supplemental 403(b) Retirement Plan, as amended from time to time.

(ff) "Plan Year" means the calendar year.

(gg) "Post-Severance Employer Contribution" means Employer contributions made to the Plan on behalf of a Participant in connection with the Participant's Severance from Employment as determined in the sole and absolute discretion of the Board or its delegate pursuant to Section 4.02.

(hh) "Pre-Tax Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a Salary Reduction Agreement in accordance with Section 4.01.

(ii) "Public School" means a State sponsored educational organization described in Code Section 170(b)(1)(A)(ii).

(jj) "Qualified Distribution" means a distribution from a Roth Contribution Account after the Participant has satisfied a five year holding period and has attained age 59½, died, or become Disabled, in accordance with Code Section 402A(d). The five year holding period is the period of five consecutive taxable years that begins with the first day of the first taxable year in which the Participant makes a designated Roth Contribution under the Plan or to another retirement plan which amount was directly rolled over to the Plan, and ends when five consecutive taxable years have been completed.

(kk) "Qualified Individual" means a Participant:

(1) who is diagnosed with the virus SARS-CoV-2 or with coronavirus disease 2019 (COVID-19) by a test approved by the Centers for Disease Control and Prevention;

(2) whose Spouse or dependent (as defined in Code Section 152) is diagnosed with such virus or disease by such a test; or

(3) who experiences adverse financial consequences as a result of:

(i) the Participant, the Participant's Spouse, or a member of the Participant's household (i) being quarantined, (ii) being furloughed or laid off or having work hours reduced due to such virus or disease, (iii) being unable to work due to lack of child care due to such virus or disease, (iv) having a reduction in pay (or self-employment income) due to such virus or disease, or (v) having a job offer rescinded or start date for a job delayed due to such virus or disease;

(ii) closing or reducing hours of a business owned or operated by the Participant, the Participant's Spouse, or a member of the Participant's household due to such virus or disease; or

(iii) other factors as determined by the Secretary of the Treasury (or the Secretary's delegate).

For purposes of this paragraph (kk), a member of the Participant's household means someone who shares the Participant's principal residence.

(ll) "Related Employer" means any entity which is under common control with the Employer under Code Section 414(b), (c), (m), or (o). The Employer shall determine which entities are Related Employers based on a reasonable, good faith standard and taking into account the special rules applicable under IRS Notice 89-23, 1989-1 C.B. 654.

(mm) "Rollover Contribution" means an amount contributed to the Plan pursuant to Section 4.03.

(nn) "Roth Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a Salary Reduction Agreement in accordance with Section 4.01, where the contribution has been (i) designated irrevocably by the Participant as a Roth Contribution being made in lieu of all or a portion of the Pre-Tax Contribution the Participant is otherwise eligible to make under the Plan, and (ii) treated by the Employer as includible in the Participant's gross income at the time the Participant would have received that amount in cash if the Participant had not made such an election.

(oo) "Salary Reduction Agreement" means an agreement entered into between an Employee and the Employer pursuant to Section 4.01, which may be in electronic or written form. Such agreement shall not be effective with respect to Compensation made available prior to the effective date of such agreement and shall be binding on the parties and irrevocable with respect to Compensation earned while it is in effect.

(pp) "Section" means, when not preceded by the word Code or ERISA, a section of the Plan.

(qq) "Severance from Employment" means the complete termination of the employment relationship between the Employee and the Employer and any Related Employer. However, a Severance from Employment also occurs on any date on which an Employee ceases to be an employee of an Employer or a Related Employer that is a Public School, even though the Employee may continue to be employed by a Related Employer that is another unit of the State or local government that is not a Public School or in a capacity that is not employment with a Public School (*e.g.*, ceasing to be an employee performing services for a Public School but continuing to work for the same State or local government employer).

(rr) "Spouse" means the person to whom a Participant is married under federal law.

(ss) "State" means the State of Maryland acting through the Employer which has offered this Plan to its Employees.

(tt) "USERRA" means the Uniformed Services Employment and Reemployment Rights Act of 1994, as amended from time to time.

(uu) "Vendor" means the service provider that has been approved by the Administrator to serve as third party administrator and/or recordkeeper for the Plan and/or to offer Investment Options to Participants under the Plan. The Vendor(s) are listed in Appendix A, as modified from time to time in the Administrator's sole and absolute discretion. A modification of Appendix A is not an amendment of the Plan.

(vv) "Vested" means the interest of the Participant or Beneficiary in his or her Account that is unconditional, legally enforceable, and nonforfeitable.

(ww) "Year of Service" means each year during which the Employee is a full-time Employee of the Employer for the entire work period, and a fraction of a year for each part of a work period during which the Employee is a full-time or part-time Employee of the Employer, determined in accordance with the rules under Treasury Regulation Section 1.403(b)-4(e).

ARTICLE III. **PARTICIPATION**

Section 3.01. **Participation.** An Employee may become a Participant in the Plan immediately after commencement of employment with the Employer. Participation in the Plan is voluntary.

Section 3.02. **Notice and Enrollment.**

(a) The Employer shall notify an Employee when he or she is eligible to participate in the Plan for purposes of Elective Deferrals.

(b) An Employee must complete the enrollment process and make investment elections with the Vendor on the Applicable Form, including a Salary Reduction Agreement for purposes of Elective Deferrals, to become a Participant in the Plan. An Employee who fails to complete the enrollment process and make investment elections with the Vendor on the Applicable Form shall be deemed to have waived all of his or her rights under the Plan, provided that such Employee may become a Participant in the Plan at any time thereafter by completing the enrollment process and making investment elections with the Vendor on the Applicable Form.

Section 3.03. **Cessation of Contributions.** A Participant shall cease to be eligible for Contributions under the Plan when he or she is no longer an Employee.

Section 3.04. **Cessation of Participation.** A Participant shall cease to be a Participant on the distribution of his or her entire interest in the Plan.

Section 3.05. **Reemployment.** A former Participant who is reemployed by the Employer shall immediately become a Participant in this Plan as of his or her date of rehire as an Employee.

ARTICLE IV. **CONTRIBUTIONS**

Section 4.01. **Elective Deferrals.**

(a) Subject to the limitations under Article V, an Employee who has satisfied the participation requirements under Section 3.01 may enter into a written Salary Reduction Agreement with the Employer agreeing to contribute each pay period Pre-Tax Contributions and/or Roth Contributions to the Plan.

(b) Pre-Tax Contributions and Roth Contributions shall begin as soon as administratively practicable following the date specified in the Salary Reduction Agreement, or, if later or if no date is specified, as soon as administratively practicable after the Salary Reduction Agreement is filed with the Administrator or the Vendor, as applicable.

(c) Pre-Tax Contributions and/or Roth Contributions shall reduce the Compensation otherwise payable to a Participant and shall be paid in cash to the Vendor by the Employer, on a basis consistent with its payroll practices, as soon as administratively feasible after being withheld from the Compensation of a Participant, but no later than 15 business days following the end of the month in which such amount is withheld from the Compensation of the Participant.

(d) If the Participant fails to designate whether Elective Deferrals are Pre-Tax Contributions or Roth Contributions, the Participant will be deemed to have designated his or her Elective Deferrals as Pre-Tax Contributions. Pre-Tax Contributions shall be allocated to the Pre-Tax Contribution Account of the Participant as of the date of contribution. Roth Contributions shall be allocated to the Roth Contribution Account of the Participant as of the date of contribution.

(e) A Salary Reduction Agreement shall remain in effect until superseded by another election or until the Administrator requires a Participant to complete a new Salary Reduction Agreement on a uniform and nondiscriminatory basis.

(1) A Participant may change his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing a new Salary Reduction Agreement with the Administrator or the Vendor, as applicable. Any such changes shall be effective as soon as administratively practicable following the date specified in the new Salary Reduction Agreement, or, if later, as soon as administratively practicable after the Salary Reduction Agreement is filed.

(2) A Participant may terminate his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing the Applicable Form with the Administrator or the Vendor, as applicable, which shall be effective as soon as administratively practicable after the Applicable Form is filed.

(f) An election to make Pre-Tax Contributions and/or Roth Contributions shall not be valid with respect to any period during which the Participant is not an Employee. No election to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions shall be given retroactive effect.

(g) The Administrator may establish additional nondiscriminatory rules and procedures governing the manner and timing of elections by Participants to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions.

Section 4.02. Post-Severance Employer Contributions. The Employer may make Post-Severance Employer Contributions to the Plan in an amount and for such Employee or Employees as determined by the Board or its delegate in its sole and absolute discretion each Plan Year. Post-Severance Employer Contributions shall be allocated to the Post-Severance

Employer Contribution Account of the Participant as of the date of the contribution, and shall be made in accordance with Code Section 403(b)(3) and Treasury Regulation Section 1.403(b)-4(d).

Section 4.03. Rollover Contributions to the Plan.

(a) Subject to the Investment Arrangements, Participants (prior to January 1, 2025, Participants who are Employees only) may transfer to the Plan as a Rollover Contribution a distribution from a Code Section 401(a) (including 401(k)) or 403(a) qualified plan (excluding after-tax contributions), a Code Section 403(b) plan (excluding after-tax contributions), a Code Section 408 individual retirement account or annuity, a SIMPLE IRA described in Code Section 408(p)(1) provided that the Rollover Contribution is made after the two year period described in Code Section 72(t)(6), or a Code Section 457(b) eligible deferred compensation plan which is maintained by an eligible employer described in Code Section 457(e)(1)(A). Any Rollover Contribution (i) shall be subject to the Vendor's determination, in its discretion, that the Rollover Contribution satisfies all applicable requirements of the Code and (ii) shall be made directly from such prior plan, or if such amount was distributed to the Participant, such Rollover Contribution shall be made within 60 days after the Participant receives the rollover amount, unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance.

(b) The Plan shall accept a Rollover Contribution of Roth amounts only if it is a direct rollover from a designated Roth account under an applicable retirement plan described in Code Section 402A(e)(1) and only to the extent the rollover is permitted under the rules of Code Section 402(c). A Rollover Contribution that includes a designated Roth account shall only be accepted if the Administrator obtains information regarding the Participant's tax basis under Code Section 72 in the amount rolled over and the first day of the Participant's taxable year in which the Participant first had Roth contributions made to such other designated Roth account.

(c) A Rollover Contribution shall be allocated to the Rollover Contribution Account of the Participant as of the date of the contribution. A Rollover Contribution from a designated Roth account shall be allocated to a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions as of the date of the contribution. Before a Rollover Contribution is made, the Participant shall designate on the Applicable Form the Investment Options in which the Vendor should invest the Participant's Rollover Contribution.

Section 4.04. In-Plan Roth Rollovers.

(a) Any portion or all of a Participant's Vested Account (other than a Roth Contribution Account or a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon) is eligible for direct rollover to the Participant's Roth Contribution Account under the Plan, even if the Vested Account is not otherwise distributable (pursuant to Code Section 402A(c)(4)(E)) under Article VIII of the Plan, and the transfer shall be treated as a qualified rollover contribution (within the meaning of Code Section 408A(e)) to the Participant's Roth Contribution Account.

(b) A Participant's election under this Section 4.04 shall be subject to the reasonable administrative procedures established by the Administrator, Code Section 402A(c)(4) and the regulations thereunder, and subsequent guidance from the Internal Revenue Service.

(c) The taxable portion of the Participant's Account directly rolled over to a Roth Contribution Account under this Section 4.04 shall be included in the Participant's gross income in the tax year in which the transfer occurs.

(d) To the extent required by Code Section 402(f), the Administrator shall provide written information regarding in-Plan Roth rollovers under this Section 4.04, for amounts that are otherwise distributable under Article VIII.

Section 4.05. Leave of Absence. During a paid leave of absence, Pre-Tax Contributions and/or Roth Contributions shall continue to be made for a Participant on the basis of Compensation paid by the Employer during the leave. No Contributions shall be made during an unpaid leave of absence.

Section 4.06. Plan Expenses. All reasonable expenses of administering the Plan shall be charged against and paid from the Participant's Accounts, subject to the terms of the applicable Investment Arrangements, unless paid by the Employer. The Administrator shall have the right to allocate expenses associated with maintaining the Accounts of terminated Employees to such Accounts, even if no expenses are allocated to the Accounts of active Employees, in accordance with rules promulgated by the Internal Revenue Service.

ARTICLE V. **LIMITATIONS ON CONTRIBUTIONS**

Section 5.01. Elective Deferral Limits.

(a) The maximum amount of Elective Deferrals to the Plan for any calendar year shall be limited to the applicable dollar amount as provided in Code Section 402(g)(B)(1), increased by the Cost of Living Adjustment in effect for such calendar year.

(b) A Participant who will attain age 50 or more by the end of the calendar year, and who is contributing up to the applicable dollar amount under paragraph (a), may make additional Elective Deferrals up to the applicable dollar amount under Code Section 414(v), as increased by the Cost of Living Adjustment in effect for such calendar year. Effective January 1, 2025, the adjusted dollar amount under Code Section 414(v)(2)(E), as increased by the Cost of Living Adjustment in effect for such calendar year, shall apply to Participants who will attain age 60 but will not attain age 64 by the end of the calendar year.

(c) Effective January 1, 2026, or such later effective date determined by the Secretary of the Treasury through guidance and subject to such guidance, with respect to a Participant whose wages within the meaning of Code Section 3121(a) for the preceding calendar year from the Employer exceed the limitation under Code Section 414(v)(7)(A), paragraph (b) shall apply only if the Participant elects or is deemed to have elected the additional amount of Elective Deferrals to be made as Roth Contributions. The wage limitation under this paragraph (c) shall be adjusted for the Cost of Living Adjustment in effect for such calendar year.

(d) The special catch-up under Code Section 402(g)(7) shall not apply.

Section 5.02. Excess Elective Deferrals. Excess Elective Deferrals resulting from Elective Deferrals made on behalf of the Participant to this Plan and to any other 403(b) or 401(k) plan maintained by the Employer or a Related Employer (or, to the extent timely requested by the Participant, to any other 403(b) or 401(k) plan maintained by any other employer) shall be distributed along with Allocable Income to the Participant no later than the April 15th following the calendar year in which the Excess Elective Deferral was made. Such distributions shall be made in accordance with the rules under Code Section 402(g) and the regulations thereunder.

Section 5.03. Code Section 415 Limits.

(a) Notwithstanding any provision of the Plan to the contrary, Annual Additions to the Plan and any other Code Section 403(b) plan maintained by the Employer or a Related Employer (or, if required by Code Section 415 and the regulations thereunder, to any other defined contribution plan) for a Participant in a Limitation Year shall not exceed the limitations set forth in Code Section 415(c), except to the extent permitted under Code Section 414(v).

(b) The Code Section 415(c) limit for any Limitation Year is the lesser of:

(1) The dollar amount under Code Section 415(c)(1)(A), increased by the Cost of Living Adjustment in effect for such calendar year; or

(2) 100% of the Participant's Includible Compensation.

Section 5.04. Excess Annual Additions.

(a) If as of the end of the Plan Year, the Annual Additions allocated to any Participant's Account exceed the limitations of this Article V, the Excess Annual Additions shall be corrected as permitted under the Employee Plans Compliance Resolution System (or similar Internal Revenue Service correction program).

(b) In any Plan Year in which there are Excess Annual Additions, an adjustment to comply with this Article V shall be made as soon as administratively practicable, but no later than the time permitted under the Internal Revenue Code: (i) first, to any plan maintained by the Participant or another employer that is required to be aggregated under Code Section 415(c) with the Plan; (ii) second, to any plan that is required to be aggregated with this Plan not described in (iv); (iii) third, to the Plan; and (iv) fourth, to the State of Maryland Optional Retirement Plan.

ARTICLE VI.
ACCOUNTING

Section 6.01. Participant Accounts. The Vendor(s) shall establish and maintain adequate records to reflect the Accounts of each Participant and Beneficiary. Credits and charges shall be made to such Accounts to reflect additions, distributions, and withdrawals, and to reflect gains or losses pursuant to the terms of each Investment Arrangement. The

maintenance of individual Accounts is for accounting purposes only, and a segregation of Plan assets to each Account shall not be required.

Section 6.02. Participant Statements. The Vendor(s) shall provide to each Participant a quarterly statement reflecting the value of the Participant's Account as of the end of each quarter, and shall provide similar information to the Administrator upon its request.

Section 6.03. Value of Account. The value of the Account of a Participant as of any valuation date is the value of the Account balance as determined by the Vendor. The valuation date shall be the last day of the Plan Year and each other date designated by the Administrator or Vendor in a uniform and nondiscriminatory manner. All transactions and Account records shall be based on fair market value.

ARTICLE VII. **INVESTMENT OF ACCOUNTS**

Section 7.01. Vendors and Investment Options.

(a) All Contributions under the Plan shall be transferred to the Vendor(s) to be held, managed, invested and distributed in accordance with the provisions of the Plan and the Investment Arrangements as applicable. All benefits under the Plan shall be distributed solely from the Investment Arrangements, and the Employer shall have no liability for any such benefits other than the obligation to make Contributions as provided in the Plan.

(b) Participants' Accounts shall be invested in one or more of the Investment Options available to Participants under this Plan, as selected by the Administrator and communicated to Participants. The Administrator's current selection of Vendor(s) and Investment Options is not intended to limit future additions or deletions of Vendor(s) or Investment Options.

(c) A Participant shall have the right to direct the investment of his or her Accounts by filing the Applicable Form with the Vendor(s). A Participant may change his or her investment election as often as determined by the Vendor(s). A Participant may elect to transfer all or any portion of his or her Accounts invested in any one Investment Option to another Investment Option, regardless of whether offered by the same or a different Vendor, subject to the limitations of the Investment Arrangements, by filing a request on the Applicable Form with the Vendor(s) or by such other means that may be provided for by the Vendor(s). A Participant may also elect to transfer all or any portion of his or her Accounts invested with a Former Vendor to an Investment Option with a Vendor, subject to the terms of the Investment Arrangements. In no event, however, may a Participant transfer any portion of his or her Accounts invested with a Vendor to an Investment Option with a Former Vendor or any other vendor that is not approved to receive Contributions under the Plan.

Section 7.02. Exclusive Benefit. Each Custodial Account shall provide for it to be impossible, prior to the satisfaction of all liabilities with respect to Participants and their Beneficiaries, for any part of the assets and income of the Custodial Account to be used for, or diverted to, purposes other than for the exclusive benefit of Participants and Beneficiaries.

Section 7.03. **Default Investments.** If a Participant does not have a valid and complete investment direction on file with the Vendor on the Applicable Form, Contributions will be invested in a default Investment Option selected by the Administrator in its sole and absolute discretion, until the Participant makes an affirmative election regarding the investment of his or her Account.

ARTICLE VIII.
DISTRIBUTIONS

Section 8.01. **Commencement of Distributions.**

(a) A Participant or, if applicable, a Beneficiary, shall be eligible to receive a distribution of his or her Vested Account under the Plan if the Participant:

- (1) has a Severance from Employment;
- (2) dies;
- (3) is Disabled;
- (4) attains age 59½; or
- (5) qualifies for a Financial Hardship Distribution or Coronavirus-Related Distribution.

(b) Except for a Participant's interest in the Plan being held in a Custodial Account, the distribution restrictions in paragraph (a) do not apply to Pre-Tax Contributions to the Plan prior to January 1, 1989 (not including earnings thereon), provided such Pre-Tax Contributions are separately accounted for under the Plan.

(c) Subject to the terms of the Investment Arrangements, Participants may elect to have either Pre-Tax Contributions or Roth Contributions distributed from the Plan first. Unless provided otherwise under the terms of the applicable Investment Arrangement, if the Participant fails to make an election, Pre-Tax Contributions will be distributed from the Plan first.

(d) Subject to the terms of the Investment Arrangements, a Rollover Contribution Account may be distributed to a Participant at any time, to the extent that Rollover Contributions have been separately accounted for by the Vendor.

(e) A Participant or Beneficiary may submit a request for a distribution to the Vendor on the Applicable Form. The Employer shall certify that the Participant has had a Severance from Employment or is Disabled.

Section 8.02. **Form of Distribution.**

(a) A Participant may elect to receive his or her Vested Account under any payment option available under the Investment Arrangement. Subject to the terms of the Investment Arrangement, these may include, but are not necessarily limited to, a single lump sum, annuity

payments, and installment payments. All forms of payment shall be subject to the limitations of the Investment Arrangement.

(b) To the extent permitted by the Investment Arrangement, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account balance does not exceed \$1,000 (determined without regard to his or her Rollover Contribution Account), unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.

(c) To the extent permitted by the Investment Arrangement, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account balance exceeds \$1,000 but does not exceed \$7,000 (before January 1, 2024, \$5,000), determined without regard to his or her Rollover Contribution Account, provided that such distribution shall be made in a direct rollover to an individual retirement plan designated by the Administrator, unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.

Section 8.03. Financial Hardship Distributions.

(a) To the extent (i) a Vendor has been approved by the Administrator to allow Financial Hardship Distributions under the Plan and (ii) a Financial Hardship Distribution is permitted by the terms governing the applicable Investment Arrangement, distribution of Elective Deferrals (prior to January 1, 2024, excluding any earnings on such Elective Deferrals after December 31, 1988) may be made to a Participant who is an Employee in the event of hardship. No Financial Hardship Distributions shall be permitted from Investment Arrangements held by Former Vendors. A Financial Hardship Distribution may only be made on account of an immediate and heavy financial need of the Participant and where the distribution is necessary to satisfy the immediate and heavy financial need. Participants may be charged a reasonable processing fee per Financial Hardship Distribution.

(b) The following are the only financial needs considered immediate and heavy:

(1) expenses incurred or necessary (1) for medical care described in Code Section 213(d) (without regard to whether the expenses exceed 7.5% of adjusted gross income) of the Participant, the Participant's Spouse or dependents (as defined in Code Section 152, but without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(2) the purchase (excluding mortgage payments) of a principal residence for the Participant;

(3) payment of tuition and related educational fees and room and board expenses for the next 12 months of post-secondary education for the Participant, the Participant's Spouse or dependents (as defined in Code Section 152, but without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(4) payments necessary to prevent the eviction of the Participant from, or a foreclosure on the mortgage of, the Participant's principal residence;

(5) payments for funeral or burial expenses for the Participant's deceased parent, Spouse, any dependent (as defined in Code Section 152, but without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(6) expenses to repair damage to the Participant's principal residence that would qualify for a casualty loss deduction under Code Section 165 (determined without regard to Code Section 165(h)(5) and without regard to whether the loss exceeds 10% of adjusted gross income);

(7) expenses and losses (including loss of income) incurred by the Participant on account of a disaster declared by the Federal Emergency Management Agency (FEMA) under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-707, provided that the Participant's principal residence or principal place of employment at the time of the disaster was located in an area designated by FEMA for individual assistance with respect to the disaster; and

(8) such other circumstances as the Commissioner of Internal Revenue determines constitute financial hardship under Code Section 401(k) or the Treasury Regulations thereunder.

(c) A distribution will be considered necessary to satisfy an immediate and heavy financial need of the Participant only if:

(1) The distribution is not in excess of the amount of the immediate and heavy financial need (including amounts necessary to pay any federal, state or local income taxes or penalties reasonably anticipated to result from the distribution);

(2) The Participant has obtained all distributions currently available under the Plan or any other plans maintained by the Employer, other than hardship distributions and non-taxable loans;

(3) The Participant represents that he or she has insufficient cash or other liquid assets reasonably available to satisfy the need; and

(4) The Participant has met any such additional or alternative requirements as may be prescribed in Treasury Regulation Section 1.401(k)-1(d)(3)(iv)(E) or subsequent promulgations.

(d) A Participant must provide substantiation of the reason for and the amount of the immediate and heavy financial need to the Vendor; provided, however, that unless it has actual knowledge to the contrary, the Vendor can rely on the Participant's self-certification that the request satisfies the requirements of this Section. The Vendor shall approve all Financial Hardship Distributions under this Section 8.03.

Section 8.04. Coronavirus-Related Distributions.

(a) Subject to the terms of the Investment Arrangements, a Participant who is a Qualified Individual may, on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), and before December 31, 2020, request one or more Coronavirus-Related Distributions from his or her Accounts regardless of whether he or she has had a Severance from Employment, subject to the following conditions:

(1) Coronavirus-Related Distributions to a Participant from this Plan and all other plans maintained by the Employer or a Related Employer may not exceed \$100,000; and

(2) A Participant shall certify to the Administrator or Vendor that he or she is a Qualified Individual prior to receiving a Coronavirus-Related Distribution.

(b) A Participant who has received a Coronavirus-Related Distribution from the Plan may, at any time during the three year period beginning on the day after the date on which such distribution was received repay such Coronavirus-Related Distribution by making one or more Rollover Contributions to the Plan which, in an aggregate amount, do not exceed the amount of such Coronavirus-Related Distribution. The preceding sentence shall not apply to any Participant who is not eligible to make a Rollover Contribution to the Plan under Section 4.03.

Section 8.05. Reemployment. If a Participant who is a former Employee subsequently becomes an Employee again, the Participant cannot request a distribution of his or her Vested Account until he or she is again entitled to a distribution under Section 8.01.

Section 8.06. Death Benefits. If a Participant dies before the distribution of his or her entire Account, his or her remaining Account shall be distributed to his or her Beneficiary(ies) as soon as administratively practicable after the Participant's death, unless the Beneficiary elects a later payment date on the Applicable Form, subject to Code Section 401(a)(9). A Beneficiary may elect to receive the Participant's Account under any distribution option available under the Section 8.02, subject to Code Section 401(a)(9).

Section 8.07. Required Distribution Rules.

(a) The provisions of this Section 8.07 take precedence over any inconsistent provisions of the Plan or of any Investment Arrangement. All distributions under this Plan shall be made in accordance with a reasonable good faith interpretation of Code Section 401(a)(9) and the regulations promulgated thereunder, including the incidental death benefit rules under Code Section 401(a)(9)(G), the changes under the Setting Every Community Up for Retirement Enhancement (SECURE) Act of 2019, SECURE 2.0 of 2022, and Treasury Regulation Sections 1.401(a)(9)-1 through -9, as each may be amended from time to time.

(b) Distributions may only be made over one of the following periods (or a combination thereof):

(1) The life of the Participant;

(2) The life of the Participant and a Designated Beneficiary;

(3) A period certain not extending beyond the life expectancy of the Participant; or

(4) A period certain not extending beyond the joint and last survivor life expectancy of the Participant and Designated Beneficiary;

provided, however, that distributions under this paragraph (b) that are paid in calendar years 2024 and later during the lifetime of the Participant shall be determined without regard to the Participant's Roth Contribution Account or to any subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon.

(c) A Participant's Accounts shall be distributed to the Participant beginning no later than April 1 of the calendar year following the later of (i) the calendar year in which the Participant attains his or her applicable age within the meaning of Code Section 401(a)(9)(C)(v) or (ii) the calendar year in which the Participant has a Severance from Employment.

(d) Notwithstanding anything to the contrary in this Section 8.07, if the Vendor(s) separately accounts for Contributions made prior to January 1, 1987, then distribution of such Contributions (but not any interest accumulated with respect thereto) need not commence until April 1 of the calendar year following the calendar year in which the Participant attains age 75.

(e) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant before distribution of his or her Account has begun under paragraph (c) or (d), the following distribution provisions shall take effect:

(1) The portion of the Participant's Account(s) payable to a Beneficiary that is not a Designated Beneficiary shall be distributed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(2) The portion of the Participant's Account(s) payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(3) The portion of the Participant's Account(s) payable to an Eligible Designated Beneficiary shall be distributed, pursuant to the election of the Eligible Designated Beneficiary, either (i) by December 31 of the calendar year containing the tenth anniversary of the Participant's death, or (ii) beginning no later than December 31 of the calendar year immediately following the calendar year in which the Participant died, over the life of the Eligible Designated Beneficiary or over a period not exceeding the life expectancy of the Eligible Designated Beneficiary. If the Eligible Designated Beneficiary does not elect a method of distribution as provided above, the Participant's Account(s) shall be distributed in accordance with item (i). Notwithstanding the foregoing, if the Eligible Designated Beneficiary is the surviving Spouse, he or she will be deemed to have elected payments consistent with an election under Code Section 401(a)(9)(B)(iv).

(f) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant after distribution of his or her Account has begun under paragraph (c) or (d), any remaining portion of his or her Account shall continue to be distributed at least as rapidly as under the method of distribution in effect at the time of the Participant's death; provided, however, that the portion of the Participant's Account payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed in its entirety by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(g) Upon the death of an Eligible Designated Beneficiary, or the attainment of age 21 of an Eligible Designated Beneficiary who is a minor child of the Participant, before distribution of the Participant's entire Account under paragraphs (e) or (f), the remainder of the Participant's Account shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Eligible Designated Beneficiary's death, or by December 31 of the calendar year in which the child attains age 31, as applicable.

(h) Any distribution required under the incidental death benefit requirements of Code Section 401(a) shall be treated as a distribution required under this Section 8.07.

(i) Each Vendor shall be separately and solely responsible for complying with the provisions of this Section 8.07 with respect to its Investment Arrangements under the Plan. The Vendor shall calculate the amounts required to be distributed to a Participant under this Section and notify such Participant of such distributions at least 60 days prior to the date distributions must begin.

(j) Notwithstanding anything in this Section 8.07 to the contrary, for 2020 the minimum distribution requirements will be satisfied as provided in this section, as determined by the terms of the Investment Arrangement governing the Participant's or Beneficiary's required minimum distribution.

(1) Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive a required minimum distribution in 2020 (or paid in 2021 for the 2020 calendar year for a Participant with a required beginning date of April 1, 2021) but for the enactment of Code Section 401(a)(9)(I) ("2020 RMDs") and who would have satisfied that requirement by receiving distributions that are either (i) equal to the 2020 RMDs, or (ii) one or more payments (that include the 2020 RMDs) in a series of substantially equal periodic payments made at least annually and expected to last for the life (or life expectancy) of the Participant, the joint lives (or joint life expectancies) of the Participant and the Beneficiary, or for a period of at least 10 years ("Extended 2020 RMDs"), will not receive this distribution unless the Participant or Beneficiary chooses to receive the distribution. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to receive the distribution described in the preceding sentence.

(2) Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive a 2020 RMD, and who would have satisfied that requirement by receiving distributions that are

(i) equal to the 2020 RMDs or (ii) Extended 2020 RMDs, will receive this distribution unless the Participant or Beneficiary chooses not to receive such distributions. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to stop receiving the distribution described in the preceding sentence.

(3) In addition, solely for purposes of applying the direct rollover provisions of Article XI, 2020 RMDs and Extended 2020 RMDs will or will not be treated as eligible rollover distributions in 2020 as determined by the terms of the Investment Arrangement governing the Participant's or Beneficiary's required minimum distribution.

Section 8.08. Additional Tax on Early Withdrawals. Generally, if a Participant receives any amount under the Plan prior to the date on which the Participant attains age 59½, unless an exception under Code Section 72(t) applies, his or her tax for the taxable year in which such amount is received is increased by an amount equal to 10% of the portion of such amount which is includible in gross income. Such amount shall be included in gross income to the extent allocable to income on the Investment Arrangement and shall not be included in gross income to the extent allocable to the investment in the Investment Arrangement as provided in Code Section 72(e)(2)(b).

ARTICLE IX. **LOANS**

Section 9.01. Loans Generally.

(a) To the extent (i) a Vendor has been approved by the Administrator to allow loans under the Plan and (ii) loans are permitted by the terms governing the applicable Investment Arrangement, loans shall be available to a Participant who is an Employee from his or her Vested Account. No loans shall be permitted from Investment Arrangements held by Former Vendors.

(b) Loans shall be subject to all applicable requirements and restrictions of the Code, including the provisions of Code Section 72(p) and the regulations thereunder. A Participant who has defaulted on a loan shall not be entitled to a future loan under the Plan until it has been fully repaid to the Plan.

(c) All loans shall be subject to the approval of the Vendor. The Vendor may charge a reasonable processing fee with respect to any loan.

(d) If a Participant who is a Qualified Individual has an outstanding loan on or after March 27, 2020, and certifies that he or she is a Qualified Individual, and the Vendor has been approved by the Administrator to administer delayed loan repayments under the Plan, this paragraph (d) shall apply:

(1) if the due date under Code Section 72(p) for any repayment with respect to such loan occurs during the period beginning on March 27, 2020, and ending on December 31, 2020, such due date shall be delayed for one year subject to the terms of the Investment Arrangement;

(2) any subsequent repayments with respect to any such loan shall be appropriately adjusted to reflect the delay in the due date under paragraph (1) and any interest accruing during such delay; and

(3) in determining the five year period and the term of a loan under Code Section 72(p), the period described in paragraph (1) shall be disregarded.

Section 9.02. Loan Procedures. The Vendor shall establish written procedures to govern Participant loans under the Plan, which may be amended from time to time. All loans shall comply with such procedures, and shall be administered subject to the terms of the applicable Investment Arrangement.

Section 9.03. Loan Limits.

(a) No loan to a Participant under the Plan may exceed the lesser of:

(1) \$50,000, reduced by the greater of (i) the outstanding balance on any loan from the Plan to the Participant on the date the loan is made or (ii) the highest outstanding balance on loans from the Plan to the Participant during the one-year period ending on the day before the date the loan is approved by the Vendor (not taking into account any payments made during such one-year period); or

(2) One-half of the value of the Participant's Vested Account (as of the valuation date immediately preceding the date on which such loan is approved by the Vendor).

Notwithstanding the foregoing, with respect to any loan made to a Participant who is a Qualified Individual on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before September 24, 2020, the loan limits under this paragraph (a) shall apply by substituting (i) "\$100,000" for "\$50,000" under subparagraph (a)(1), and (ii) "The value of the Participant's Vested Account" for "One-half of the value of the Participant's Vested Account" under subparagraph (a)(2).

(b) For purposes of this Section, any loan from any other plan maintained by the Employer and any Related Employer shall be treated as if it were a loan made from the Plan, and the Participant's vested interest under any such other plan shall be considered a Vested interest under this Plan; provided, however, that the provisions of this paragraph shall not be applied so as to allow the amount of a loan to exceed the amount that would otherwise be permitted in the absence of this paragraph.

(c) The Administrator shall take such steps as appropriate to coordinate the limitations on loans, including collection of information from Vendors, and transmission of information requested by any Vendor. The Administrator may delegate this responsibility to a Vendor or to another service provider pursuant to Article XII of the Plan.

ARTICLE X.
VESTING

A Participant or, in the event of the Participant's death, the Beneficiary, shall be 100% Vested in his or her Accounts at all times.

ARTICLE XI.
ELIGIBLE ROLLOVERS FROM THIS PLAN

Section 11.01. Definitions for this Article. For purposes of this Article, the following definitions shall apply.

(a) "Direct Rollover" means an Eligible Rollover Distribution that is paid directly to an Eligible Retirement Plan for the benefit of the Distributee.

(b) "Distributee" means a Participant, the Spouse of the Participant, the Participant's former Spouse who is an alternate payee within the meaning of Code Section 414(p)(8), and, effective January 1, 2008, a Participant's non-Spouse Beneficiary, any of whom is eligible to receive a distribution from the Plan.

(c) "Eligible Retirement Plan," as defined under Code Section 402(c)(8)(B), means:

- (1) an individual retirement account described in Code Section 408(a);
- (2) an individual retirement annuity (other than an endowment contract) described in Code Section 408(b);
- (3) a simple retirement account described in Code Section 408(p)(1) following the two year period described in Code Section 72(t)(6);
- (4) any annuity plan described in Code Section 403(a);
- (5) a plan described in Code Section 403(b);
- (6) a qualified plan described in Code Section 401(a);
- (7) a Code Section 457(b) eligible deferred compensation plan which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state; and
- (8) effective January 1, 2008, a Roth individual retirement account described in Code Section 408A(e), provided the Distributee's adjusted gross income does not exceed any limit applicable under federal law for the tax year in which the distribution occurs.

Effective January 1, 2008, in the case of a distribution to a Participant's non-Spouse Beneficiary, an Eligible Retirement Plan shall mean the plans described in subparagraphs (1) and (2) only, to

the extent consistent with the provisions of Code Section 402(c)(11) and any successor provisions thereto or additional guidance issued thereunder.

(d) "Eligible Rollover Distribution," as defined in Code Section 402(f)(2)(A), means any distribution of all or any portion of the balance to the credit of the Distributee under this Plan, except that an Eligible Rollover Distribution does not include:

(1) any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the Distributee or the joint lives (or joint life expectancies) of the Distributee and the Distributee's designated Beneficiary, or for a period of ten years or more;

(2) any distribution to the extent such distribution is required under Code Section 401(a)(9);

(3) the portion of any distribution that is not includible in gross income; provided, however, a portion of a distribution shall not fail to be an Eligible Rollover Distribution merely because the portion consists of after-tax employee contributions that are not includible in gross income. However, such portion may be transferred only:

(i) to an individual retirement account or annuity described in Code Section 408(a) or 408(b), respectively, or to a qualified defined contribution plan described in Code Section 401(a) that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of such distribution which is not so includible;

(ii) to a qualified defined benefit plan described in Code Section 401(a) or to an annuity contract described in Code Section 403(b), that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of the distribution that is not so includible; or

(iii) to a Roth IRA described in Code Section 408A;

(4) any distribution which is made upon the financial hardship of the Participant; and

(5) other items designated by regulations, or by the Commissioner in revenue rulings, notices, or other guidance, as items that do not constitute an eligible rollover distribution.

Section 11.02. Direct Transfer of Eligible Rollover Distribution. A Distributee may elect on an Applicable Form to have an Eligible Rollover Distribution paid directly to an Eligible Retirement Plan as specified by the Distributee in a Direct Rollover, at the time and in the manner prescribed by the Vendor. An Eligible Rollover Distribution that is paid to an Eligible Retirement Plan in a Direct Rollover is excludable from the Distributee's gross income under Code Section 402; provided, however, if any portion of such Eligible Rollover

Distribution is subsequently distributed from the Eligible Retirement Plan, that portion shall be included in gross income to the extent required under Code Section 402, 403, or 408.

Section 11.03. Mandatory Withholding of Eligible Rollover Distributions.

(a) If the Distributee of an Eligible Rollover Distribution does not elect to have the Eligible Rollover Distribution paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover pursuant to Code Section 401(a)(31), the Eligible Rollover Distribution shall be subject to a mandatory 20% federal income tax withholding under Code Section 3405(c). Only that portion of the Eligible Rollover Distribution that is not paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover shall be subject to the mandatory withholding requirement under Code Section 3405(e), and only to the extent such amount would otherwise be includible in the Distributee's taxable gross income.

(b) If a Distributee elects to have an Eligible Rollover Distribution paid to the Distributee, the distribution may be excluded from gross income of the Distributee provided that said distribution is contributed to an Eligible Retirement Plan no later than the 60th day following the day on which the Distributee received the distribution.

(c) If the Plan distribution is not an Eligible Rollover Distribution, said distribution shall be subject to the elective withholding provisions of Code Section 3405(a) and (b).

Section 11.04. Explanation of Plan Distribution and Withholding Requirements.

Not fewer than 30 days nor more than 180 days before an Eligible Rollover Distribution, the Vendor shall provide each Distributee a written explanation as required under Code Section 402(f), which explains the rules:

(a) under which a Distributee may elect to have an Eligible Rollover Distribution paid in a Direct Rollover to an Eligible Retirement Plan;

(b) that require the withholding of tax on an Eligible Rollover Distribution if it is not paid in a Direct Rollover to an Eligible Retirement Plan;

(c) that provide that a distribution shall not be subject to tax if the distribution is rolled over to an Eligible Retirement Plan within 60 days after the date the Distributee receives the distribution (unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance); and

(d) if applicable, certain special rules regarding taxation of the distribution as described in Code Sections 402(d) and (e).

Notwithstanding the above, a distribution may begin fewer than 30 days after the notice discussed in the preceding sentence is given, provided that the Vendor clearly informs the Participant that he or she has a right to a period of at least 30 days after receiving the notice to consider the decision of whether or not to elect a distribution and the Participant, after receiving a notice, affirmatively elects a distribution.

ARTICLE XII.
PLAN-TO-PLAN TRANSFERS

Section 12.01. Plan-to-Plan Transfers.

(a) A transfer from this Plan to the State of Maryland Tax Sheltered Annuity 403(b) Plan (“MSRP 403(b) Plan”), a Code Section 403(b) plan maintained by an eligible employer described in Code Section 403(b)(1)(A)(ii) within the State of Maryland, is permitted under the following conditions:

- (1) The MSRP 403(b) Plan provides for the receipt of plan-to-plan transfers;
- (2) The Participant whose Account is being transferred will have an accumulated benefit immediately after the transfer at least equal to the accumulated benefit with respect to that Participant immediately before the transfer;
- (3) The Participant whose Account is being transferred is an employee or former employee of the employer maintaining the MSRP 403(b) Plan;
- (4) The MSRP 403(b) Plan provides for distribution restrictions on the transferred amounts that are no less stringent than those under the Plan;
- (5) If the transfer does not constitute a complete transfer of the Participant's interest in the Plan, the MSRP 403(b) Plan treats the amount transferred as a continuation of a pro rata portion of the Participant's interest in the Plan; and
- (6) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.403(b)-10(b)(3) and such other rules and policies established by the Administrator or Vendor.

(b) A transfer to this Plan from the MSRP 403(b) Plan is permitted under the following conditions:

- (1) The MSRP 403(b) Plan provides for plan-to-plan transfers;
- (2) The Participant whose account is being transferred will have an accumulated benefit immediately after the transfer at least equal to the accumulated benefit with respect to that Participant immediately before the transfer;
- (3) The Participant whose account is being transferred is an Employee or former Employee of an Employer;
- (4) If the transfer does not constitute a complete transfer of the Participant's interest in the MSRP 403(b) Plan, the Plan treats the amount transferred as a continuation of a pro rata portion of the Participant's interest in the MSRP 403(b) Plan; and

(5) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.403(b)-10(b)(3) and such other rules and policies established by the Administrator or Vendor.

(c) Any amount transferred to the Plan under paragraph (b) shall be credited to the Participant's Transfer Account and shall be held, accounted for, administered and otherwise treated in the same manner as an Elective Deferral by the Participant under the Plan, except that the transferred amount shall not be considered an Elective Deferral under the Plan in determining the maximum deferral under Article V.

Section 12.02. Permissive Service Credit Transfers.

(a) If a Participant is also a participant in a tax-qualified defined benefit governmental plan (as defined in Code Section 414(d)) that provides for the acceptance of plan-to-plan transfers with respect to the Participant, then the Participant may elect to have any portion of the Participant's Account transferred to the defined benefit governmental plan. A transfer under this Section may be made before the Participant has had a Severance from Employment.

(b) A transfer may be made under this Section only if the transfer is either for the purchase of permissive service credit (as defined in Code Section 415(n)(3)(A)) under the receiving defined benefit governmental plan or a repayment to which Code Section 415 does not apply by reason of Code Section 415(k)(3).

ARTICLE XIII.
PLAN ADMINISTRATION

Section 13.01. Authority of the Administrator. The Administrator shall have the authority to control and manage the operation and administration of the Plan. The Administrator shall have all power necessary or convenient to enable it to exercise its authority under the Plan. The Administrator may provide rules and regulations, not inconsistent with the provisions hereof, for the operation and management of the Plan, and may from time to time amend or rescind such rules or regulations. The Administrator is authorized to accept service of legal process for the Plan.

Section 13.02. Powers of the Administrator. The Administrator shall have the power and discretion to construe and interpret the Plan, including any ambiguities, to determine all questions of fact or law arising under the Plan, and to resolve any disputes arising under and all questions concerning administration of the Plan. The Administrator may correct any defect, supply any omission or reconcile any inconsistency in the Plan in such manner and to such extent as the Administrator may deem expedient and, subject to the Plan's claim procedures, the Administrator shall be the sole and final judge of such expediency. Benefits are payable under the Plan only if the Administrator, in its sole and absolute discretion, determines the benefits are payable under the provisions the Plan.

Section 13.03. Delegation by Administrator.

(a) The Administrator may from time to time delegate in writing to a committee or any duly authorized officer certain of its fiduciary duties or other responsibilities under the Plan. Any such committee or officer delegated fiduciary duties shall be a fiduciary until the Administrator revokes such delegation. A delegation of the Administrator's duties or responsibilities may be revoked without cause or advance notice. To the extent permitted under applicable law, such committee or officer shall have the same power and authority with respect to such delegated fiduciary or other responsibilities as the Administrator has under the Plan. The Administrator shall not be liable for any act or omission of such fiduciary in carrying out such responsibilities.

(b) The Administrator has designated the Vendors to be responsible for providing information to Participants regarding enrollment, Investment Options, and performance; processing contributions, withdrawal requests, transfers, and changes in Investment Options; and providing record keeping services and such other services as provided for under agreements between the Vendors and the Administrator.

(c) The Administrator may designate one of the Vendors or another service provider to provide for the collection and coordination of information relating to Financial Hardship Distributions, in-service distributions, loans, contribution limits, and any other administrative function under the Plan.

Section 13.04. Fiduciary Insurance. Subject to State law, the Board may require the purchase of fiduciary liability insurance for any Plan fiduciary or fiduciaries to cover liability or losses occurring by reason of the act or omission of a fiduciary.

Section 13.05. Employment of Consultants. The Administrator may employ one or more persons to render advice with regard to its responsibilities under the Plan.

ARTICLE XIV. **CLAIMS PROCEDURES**

Section 14.01. Requests for Information Concerning Eligibility, Participation and Contributions. Requests for information concerning eligibility, participation, contributions, or any other aspects of the operation of the Plan, and service of legal process, should be in writing and directed to the Administrator of the Plan. If a written request is denied, the Administrator shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Administrator and may submit issues and comments in writing to the Administrator. The Administrator shall provide to the Participant a written decision upon such request for review of a denied claim.

Section 14.02. Requests for Information Concerning Investment Arrangements. Requests for information concerning the Annuity Contracts and Custodial Accounts and their terms, conditions, and interpretations thereof, claims thereunder, any requests for review of such claims, and service of legal process, should be in writing and directed to the Vendor. If a written request is denied, the Vendor shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Vendor

and may submit issues and comments in writing to the Vendor. The Vendor shall provide to the Participant a written decision upon such request for review of a denied claim.

ARTICLE XV.
AMENDMENT AND TERMINATION

Section 15.01. Amendment and Termination of Plan. The Board shall have the right, in its sole and final discretion, to amend or terminate the Plan at any time and from time to time to any extent which it may deem advisable.

Section 15.02. Restrictions on Amendments. The Plan may not be amended in a manner that violates any provision of the Code.

Section 15.03. Distribution Upon Termination of the Plan. The Board may provide that, in connection with a termination of the Plan, all Accounts shall be distributed, provided that the Employer and any Related Employer on the date of the termination does not make contributions to an alternative Code Section 403(b) plan that is not part of the Plan during the period beginning on the date of Plan termination and ending 12 months after the distribution of all assets from the Plan, except as permitted by the regulations. For purposes of distributing all assets from the Plan in the event of a Plan termination, (i) delivery of a fully paid individual insurance annuity contract, and/or (ii) distribution of an individual custodial account in kind, shall be treated as a distribution.

ARTICLE XVI.
MISCELLANEOUS

Section 16.01. Non-Alienation.

(a) A Participant's Account under the Plan shall not be liable for any debt, liability, contract, engagement, or tort of the Participant or his or her Beneficiary, nor subject to anticipation, sale, assignment, transfer, encumbrance, pledge, charge, attachment, garnishment, execution, alienation, or any other voluntarily or involuntarily alienation or other legal or equitable process, nor transferable by operation of law.

(b) Notwithstanding paragraph (a), the Plan shall comply with any judgment, decree or order ("domestic relations order") which establishes the right of an alternate payee within the meaning of Code Section 414(p)(8) to all or a portion of a Participant's benefit under the Plan to the extent that it is a "qualified domestic relations order" ("QDRO") under Code Section 414(p). The Vendor shall establish reasonable written procedures to determine whether a domestic relations order is a QDRO and to administer the distribution of benefits with respect to such orders, which procedures may be amended from time to time, and which shall be provided to Participants upon request. Notwithstanding any other provisions in the Plan, the Plan may make an immediate distribution to the alternate payee pursuant to a QDRO.

(c) Notwithstanding paragraph (a), the Plan shall offset from the benefit otherwise payable to a Participant or his or her Beneficiary such amounts as are permitted to be offset under a court order, civil judgment, or settlement agreement in accordance with Code Section 401(a)(13)(C).

Section 16.02. Military Service.

(a) Notwithstanding any provisions of this Plan to the contrary, contributions, benefits, and service credit with respect to qualified military service shall be provided in accordance with USERRA, HEART, Code Section 414(u), and Code Section 401(a)(37). For purposes of this Section, "qualified military service" means any service in the uniformed services as defined in USERRA by any individual if such individual is entitled to reemployment rights under USERRA with respect to such service.

(b) A Participant whose employment is interrupted by qualified military service or who is on a leave of absence for qualified military service may elect to make Elective Deferrals upon resumption of employment with the Employer up to the maximum Elective Deferrals that the Participant could have elected during that period if the Participant's employment with the Employer had continued (at the same level of Compensation) without the interruption or leave, reduced by the Elective Deferrals, if any, actually made for the Participant during the period of the interruption or leave. Except to the extent provided under Code Section 414(u), this right applies for the lesser of (i) five years following the resumption of employment or (ii) a period equal to three times the period of the interruption or leave. Such Elective Deferrals by the Participant may only be made during such period and while the Participant is reemployed by the Employer.

(c) Effective January 1, 2007, to the extent provided under Code Section 401(a)(37), in the case of a Participant whose employment is interrupted by qualified military service and who dies while performing qualified military service, the survivor of such Participant shall be entitled to any additional benefit (other than benefit accruals) provided under the Plan as if the Participant timely resumed employment in accordance with USERRA and then, on the next day, terminated employment on account of death.

(d) Effective January 1, 2009, differential wage payments within the meaning of Code Section 414(u)(12)(D) shall be treated as Compensation and Includible Compensation under the Plan.

Section 16.03. Limitation of Rights and Obligations. Neither the establishment nor maintenance of the Plan nor any amendment thereof nor any act or omission under the Plan or resulting from the operation of the Plan shall be construed:

(a) as conferring upon any Participant, Beneficiary, or any other person a right or claim against the Administrator or Employer, except to the extent that such right or claim shall be specifically expressed and provided in the Plan;

(b) as creating any responsibility or liability of the Board, the Employer or the Administrator for the validity or effect of the Plan;

(c) as a contract or agreement between the Board, the Employer, or the Administrator and any Participant or other person;

(d) as an agreement, consideration, or inducement of employment or as effecting in any manner or to any extent whatsoever the rights or obligations of the Employer or any

Employee to continue or terminate the employment relationship at any time, except as otherwise provided under any applicable collective bargaining agreement; or

(e) as giving any Participant the right to be retained in the service of the Employer or to interfere with the right of the Employer to discharge any Participant or other person at any time; provided, however, that the foregoing will not be deemed to modify the provisions of any collective bargaining agreements which may have been entered into by the Employer with the bargaining representatives of any Participant.

Section 16.04. Federal and State Taxes. It is intended that Contributions other than Roth Contributions under this Plan, plus any earnings thereunder, are excludable from gross income for federal and state income tax purposes until paid to Participants or Beneficiaries, and that Roth Contributions and earnings thereunder are excludable from gross income for federal and state income tax purposes when paid to Participants or Beneficiaries to the extent that they are Qualified Distributions. However, the Administrator does not guarantee that any particular federal or state income, payroll, or other tax consequence will occur as a result of participation in this Plan.

Section 16.05. Erroneous Payments. If the Administrator or Vendor makes any payment that, according to the terms of the Plan and the benefits provided hereunder, should not have been made, the Administrator or Vendor may recover that incorrect payment, by whatever means necessary, whether or not it was made due to the error of the Administrator or Vendor, from the person to whom it was made, or from any other appropriate party. For example, if any such incorrect payment is made directly to a Participant, the Administrator or Vendor may deduct it when making any future payments directly to that Participant.

Section 16.06. Benefit Payment Issue Resolution. The Administrator, or its designee, if in doubt regarding the correctness of its action with respect to a benefit payment, may direct suspension of payment until satisfied as to the correctness of the payment or the person to receive the payment. Alternatively, the Administrator, or its designee, may file, in any state court of competent jurisdiction, a suit, in the form it deems appropriate, for legal determination of the benefits to be paid and the persons to receive them. The Administrator, or its designee, may also bring a suit, or take other action as it deems appropriate, to resolve questions involving investment directions. The Administrator shall comply with the final order of the court in any such suit, and Participants and the Administrator shall be bound by such an order, insofar as it affects the benefits payable under this Plan, or the method or manner of payment.

Section 16.07. Release. Any payments to any Participant shall, to the extent thereof, be in full satisfaction of the claim of such Participant being paid thereby and the Administrator may condition payment thereof on the delivery by the Participant of the duly executed receipt and release in such form as may be determined by the Administrator.

Section 16.08. Liability. The Administrator shall not incur any liability in acting upon any notice, request, signed letter, telegram, or other paper or document or electronic transmission believed by the Administrator to be genuine or to be executed or sent by an authorized person.

Section 16.09. Information Provided by the Participant. Each Participant should provide to the Administrator at the time of initial enrollment, and later if there are any changes, any information necessary or advisable for the Administrator to administer the Plan.

Section 16.10. Family Medical Leave Act. Notwithstanding any provisions of this Plan to the contrary, Contributions and benefits with respect to qualified leave will be provided in accordance with the Family Medical Leave Act of 1993, 29 U.S.C. Section 2601 et. seq.

Section 16.11. Payments to Minors or Incompetents. If a Participant or Beneficiary entitled to receive any benefits hereunder is a minor or is determined to be legally incapable of giving valid receipt and discharge for such benefits by a court or by the Administrator, benefits shall be paid to such person as the Administrator may designate for the benefit of such Participant or Beneficiary. Such payments shall be considered a payment to the Participant or Beneficiary and shall, to the extent made, be deemed a complete discharge of any liability for such payments under the Plan.

Section 16.12. Missing or Lost Participants. In the event that the Administrator does not have current contact information for or is unable to identify a Participant or Beneficiary under the Plan, the Administrator shall make reasonable attempts to determine the address and identity of the Participant or Beneficiary entitled to benefits under the Plan. A reasonable attempt to locate a missing or lost Participant or Beneficiary shall include (i) providing notice to the Participant at the Participant's last known address via certified mail; (ii) determining whether the Employer's records or the records of another plan maintained by the Employer has a more current address for the Participant; (iii) attempting to contact any named Beneficiary of the Participant; and (iv) searching for the missing Participant via free electronic search tools, such as Internet search engines, public record databases, obituaries, and social media. If such search methods are unsuccessful, based on the facts and circumstances, the Administrator may use other search methods, including using Internet search tools, commercial locator services, credit reporting agencies, information brokers, investigation databases, and analogous services that may involve charges. The Administrator may charge missing Participants and Beneficiaries reasonable expenses for efforts to find them.

Section 16.13. Indemnification. The Employer shall satisfy any liability actually and reasonably incurred by any members of the Board or any person to whom any power, authority or responsibility of the Administrator is delegated pursuant to Section 13.03, except a Vendor or other service provider. These liabilities include expenses, attorney's fees, judgments, fines, and amounts paid in connection with any threatened, pending or completed action, suit or proceeding related to the exercise (or failure to exercise) of this authority. This is in addition to whatever rights of indemnification exist under the regulations or by-laws of the Employer, under any provision of law, or under any other agreement; provided, however, that the Employer will not satisfy any such liability to the extent that the person did not act in good faith.

Section 16.14. No Reversion. Under no circumstances or conditions will any Contributions revert to, be paid to, or inure to the benefit of, directly or indirectly, the Employer, but shall be held for the exclusive purpose of providing benefits to Participants and their Beneficiaries and defraying the reasonable expenses of administering the Plan. However, if

Contributions are made by the Employer by a good faith mistake of fact, such amount may be returned to the Employer within one year of the date that they were made to the Plan.

Section 16.15. Finality of Determination. All determinations with respect to crediting of service under the Plan are made on the basis of the records of the Employer, and all determinations made are final and conclusive upon Employees, former Employees, former Eligible Employees, and all other persons claiming a benefit under the Plan.

Section 16.16. Counterparts. The Plan may be executed in any number of counterparts, each of which shall be deemed to be an original. All counterparts shall constitute but one and the same instrument and shall be evidenced by any one counterpart.

IN WITNESS WHEREOF, the Board has caused this amended and restated Plan to be executed by its duly authorized representative as of the date written below, but effective as of January 1, 2024.

**UNIVERSITY SYSTEM OF MARYLAND
BOARD OF REGENTS**

Signature

Printed

Title

Date

**UNIVERSITY SYSTEM OF MARYLAND
SUPPLEMENTAL 403(b) RETIREMENT PLAN**

APPENDIX A

APPROVED VENDORS

The current selection of Vendor(s) is not intended to limit future additions or deletions of Vendor(s). The Administrator from time to time may add or delete Vendor(s) which shall be effective on the date adopted by the Administrator and shall be reflected in a revised Appendix A.

1.1 **Approved Vendors**

The Board has approved the following Vendors under the Plan, which remain approved as of January 1, 2024:

- TIAA
- Fidelity Investments

1.2 **Former Vendors**

As of January 1, 2008, AIG VALIC is a Former Vendor under the Plan.

**UNIVERSITY SYSTEM OF MARYLAND
DEFERRED COMPENSATION PLAN AND TRUST**

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**UNIVERSITY SYSTEM OF MARYLAND
DEFERRED COMPENSATION PLAN AND TRUST**

**ARTICLE I.
ESTABLISHMENT AND RESTATEMENT OF PLAN**

Section 1.01. Plan Establishment and History.

(a) The University System of Maryland is a public university system established under Maryland law and an educational organization described in Section 170(b)(1)(A)(ii) of the Internal Revenue Code of 1986, as amended ("Code"). The Board of Regents of the University System of Maryland ("Board") established the University System of Maryland Deferred Compensation Plan and Trust ("Plan") pursuant to Code Section 457(b) and Section 30-401 of the State Personnel and Pensions Article of the Annotated Code of Maryland, to provide eligible employees the opportunity to supplement their retirement benefits through voluntary contributions.

(b) The Plan is, and is intended to remain, an eligible deferred compensation plan under Code Section 457(b). The Plan is a governmental plan within the meaning of Code Section 414(d) and Section 3(32) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). As a governmental plan, ERISA does not apply.

(c) The Plan was most recently amended and restated effective January 1, 2020.

Section 1.02. Plan Restatement.

(a) The Plan is now being amended and restated effective January 1, 2024, except as otherwise specifically provided herein, to make certain required and discretionary changes.

(b) Except as otherwise specifically provided herein, the Plan as hereinafter set forth establishes the rights and obligations with respect to individuals who are Employees on and after January 1, 2024, and to transactions under the Plan on and after January 1, 2024. The rights and benefits, if any, of individuals who are not Employees on or after January 1, 2024, shall be determined in accordance with the terms and provisions of the Plan that were in effect on the date of their Severance from Employment, except as otherwise specifically provided herein or in a subsequent amendment.

Section 1.03. Plan Funding. The Plan is funded through one or more Trusts in accordance with the requirements of the Code. The terms and conditions of the Trusts shall be incorporated into this Plan; provided, however, that to the extent that there is any conflict between the terms of the Trusts and the terms of the Plan, the terms of the Plan shall govern, except as otherwise specifically provided herein.

ARTICLE II.
RULES OF CONSTRUCTION AND DEFINITIONS

Section 2.01. Rules of Construction and Governing Law.

(a) This Plan shall be interpreted, enforced, and administered in accordance with the Code and, when not inconsistent with the Code, or expressly provided otherwise herein, the laws of the State of Maryland without regard to conflict of law principles.

(b) Words used herein in the masculine gender shall be construed to include the feminine gender where appropriate, and *vice versa*, and words used herein in the singular or plural shall be construed as being in the plural or singular, where appropriate, and *vice versa*.

(c) The headings and subheadings in the Plan are inserted for convenience of reference only and are not to be considered in the construction of any provision of the Plan.

(d) If any provision of the Plan shall be held to violate the Code or be illegal or invalid for any other reason, that provision shall be deemed to be null and void, but the invalidation of that provision shall not otherwise impair or affect the Plan.

(e) In resolving any conflict between provisions of the Plan and in resolving any other uncertainty as to the meaning or intention of any provision of the Plan, the interpretation that causes the Plan to (i) constitute an eligible deferred compensation plan under the provisions of Code Section 457 and the Trust to be exempt from tax under Code Section 457, (ii) be a governmental plan as defined in ERISA Section 3(32) and Code Section 414(d), and (iii) comply with all applicable requirements of the Code, shall prevail over any different interpretation.

Section 2.02. Definitions. When the initial letter of a word or phrase is capitalized herein, the meaning of such word or phrase shall be as follows:

(a) "Account" means the separate accounts maintained for each Participant and Beneficiary under the Plan. The following Accounts shall be established for a Participant or Beneficiary, if applicable:

(1) A Pre-Tax Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Pre-Tax Contributions pursuant to Section 4.01.

(2) A Roth Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Roth Contributions pursuant to Section 4.01.

(3) A Rollover Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Rollover Contributions pursuant to Section 4.03.

(4) A Transfer Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to plan-to-plan transfers pursuant to Section 13.01.

(b) "Account Balance" means the bookkeeping account maintained with respect to each Participant which reflects the value of the deferred compensation credited to the Participant, including the Participant's Annual Deferrals, the earnings or loss of the Trust Fund (net of Trust Fund expenses) allocable to the Participant, any transfers for the Participant's benefit, and any distribution made to the Participant or the Participant's Beneficiary. If a Participant has more than one Beneficiary at the time of the Participant's death, then a separate Account Balance shall be maintained for each Beneficiary. The Account Balance includes any account established for Rollover Contributions and plan-to-plan transfers made for a Participant, the account established for a Beneficiary after a Participant's death, and any account or accounts established for an alternate payee as defined in Code Section 414(p)(8).

(c) "Administrator" means the Administrative Committee as designated by the Board, or such other person, persons, or entity designated by the Board, to perform the administrative duties and functions under the Plan.

(d) "Allocable Income" means the sum of the allocable gain or loss for the year or partial year determined in accordance with Code Section 457 and the regulations promulgated thereunder.

(e) "Annual Deferrals" mean Pre-Tax Contributions and/or Roth Contributions.

(f) "Applicable Form" means the appropriate form as designated and furnished by the Administrator or Vendor to make an election or provide a notice as required by the Plan. If a written election or consent is not specifically required by the Code, the Administrator or Vendor may prescribe a verbal, electronic, or telephonic form in lieu of or in addition to a written form.

(g) "Beneficiary" means the person, company, trustee, or estate designated by the Participant on the Applicable Form to receive any benefits payable under the Plan in the event of the Participant's death. A designation of an individual as a Beneficiary shall remain in effect until affirmatively revoked by the Participant on a subsequent Applicable Form and, unless otherwise provided in the Trust, if no designated Beneficiary survives the Participant or there is no Beneficiary designated, the Participant's surviving Spouse shall be the Beneficiary or, if there is no surviving Spouse, the Participant's estate shall be the Beneficiary. Beneficiary also means an alternate payee within the meaning of Code Section 414(p)(8).

(h) "Board" means the Board of Regents of the University System of Maryland.

(i) "Code" means the Internal Revenue Code of 1986, as amended from time to time.

(j) "Compensation" means all cash compensation for services to the Employer, including salary, wages, fees, commissions, bonuses, and overtime pay, which is includible in the Employee's gross income for the calendar year, plus amounts that would be cash compensation for services to the Employer includible in the Employee's gross income for the calendar year but for a compensation reduction election under Code Section 125, 132(f), 401(k), 403(b), or 457(b) (including an election to reduce compensation in order to make Annual Deferrals under the Plan). Compensation does not include amounts "picked up" by the Employer within the meaning of Code Section 414(h). Compensation includes any compensation described in paragraph (1) or (2), provided it is paid by the later of 2½ months after the

Employee's Severance from Employment with the Employer or the end of the calendar year in which the Employee has a Severance from Employment with the Employer:

(1) any payment that would have been paid to the Employee prior to a Severance from Employment if the Employee continued in employment with the Employer and that is regular compensation for services during the Employee's regular working hours, compensation for services outside the Employee's regular working hours (such as overtime or shift differential), commissions, bonuses, or other similar payments; and

(2) a payment for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if employment had continued and the payment would be Compensation if paid prior to the Employee's Severance from Employment, and only if the Employee separately elects for such payment to be reduced on his or her Salary Reduction Agreement pursuant to Section 4.01.

Any payment that is not described in paragraph (1) or (2) above is not considered Compensation if paid after Severance from Employment. Thus, for example, Compensation does not include amounts paid after Severance from Employment that are severance pay or unfunded nonqualified deferred compensation.

(k) "Contributions" mean Pre-Tax Contributions, Roth Contributions, Rollover Contributions, and plan-to-plan transfers.

(l) "Coronavirus-Related Distribution" means a distribution made on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before December 31, 2020, to a Qualified Individual in accordance with Section 9.05.

(m) "Cost of Living Adjustment" means the cost of living adjustment prescribed by the Secretary of the Treasury under Code Section 414(v) or 457(e)(15) for any applicable year.

(n) "Designated Beneficiary" means an individual Beneficiary within the meaning of Code Section 401(a)(9)(E)(i).

(o) "Disabled" means disabled within the meaning of Code Section 72(m)(7).

(p) "Eligible Designated Beneficiary" means a Designated Beneficiary who meets the additional criteria under Code Section 401(a)(9)(E)(ii).

(q) "Employee" means a common law employee of the Employer, including a contingent employee (other than a contractual or a leased employee or an independent contractor) and an employee whose employment is governed by the terms of a collective bargaining agreement between representatives of the employee's bargaining unit and the State of Maryland, and under which retirement benefits were the subject of good faith bargaining, unless the bargaining representatives for the bargaining unit and the Employer have agreed to have the employees in the bargaining unit excluded from participation.

(r) "Employer" means the University System of Maryland and its constituent institutions and centers, which are all governmental entities.

(s) "Former Vendor" means a service provider that was an approved Vendor under the Plan, but that ceases to be an approved Vendor under the Plan, that continues to hold Plan assets.

(t) "HEART" means the Heroes Earnings Assistance and Relief Tax Act of 2008, as amended from time to time.

(u) "Includible Compensation" means all compensation received by an Employee from the Employer that is includible in his or her gross income for federal income tax purposes (computed without regard to Code Section 911) for that taxable year under Code Section 415(c)(3). Includible Compensation also includes any amounts excludable from taxable income because of an election (including Annual Deferrals under the Plan) under Code Sections 403(b), 457(b), 125, 401(k), or 132(f). Includible Compensation includes compensation paid by 2½ months after the later of an Employee's Severance from Employment or the end of the Plan Year that includes the date of the Employee's Severance from Employment, if:

(1) the payment is regular compensation for services during the Employee's regular working hours, or compensation for services outside the Employee's regular working hours (e.g., overtime or shift differential), commissions, bonuses, or other similar payments and the payment would have been paid to the Employee prior to a Severance from Employment if the Employee had continued in employment with the Employer;

(2) the payment is for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if the Employee had continued in employment; or

(3) the payment is made to the Employee under a nonqualified unfunded deferred compensation plan, but only if the payment would have been paid to the Employee at the same time if the Employee had continued in employment with the Employer and only to the extent that the payment is includible in the Employee's gross income.

Includible Compensation does not include any amounts "picked up" by the Employer within the meaning of Code Section 414(h). Includible Compensation is determined without regard to any community property laws.

(v) "Investment Options" mean the investment funds available under the Trust provided by the Vendor(s) and specifically approved by the Administrator, in its sole and absolute discretion, for use under this Plan.

(w) "Normal Retirement Age" means, for a Participant who is a member of:

(1) a State defined benefit retirement system, the age designated by the Participant, but beginning no earlier than the earliest age at which the Participant may retire under the State defined benefit retirement system in which he or she participates and receive immediate retirement benefits (without consent of the State and without actuarial or similar reduction), and ending no later than age 70½; or

(2) the State of Maryland Optional Retirement Plan, the age designated by the Participant, but beginning no earlier than age 65, and ending no later than age 70½.

If the Participant shall, for any reason, fail to designate a Normal Retirement Age, the Normal Retirement Age shall be age 70½. The Normal Retirement Age specified must be the same for all eligible deferred compensation plans under Code Section 457(b) sponsored by the Employer in which the Participant participates.

(x) "Participant" means any Employee who is or may become eligible to receive a benefit of any type under the Plan. A Participant shall also mean, when appropriate to the context, a former Employee who is eligible to receive a benefit of any type under the Plan.

(y) "Plan" means the University System of Maryland Deferred Compensation Plan and Trust, as amended from time to time.

(z) "Plan Year" means the calendar year.

(aa) "Pre-Tax Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a Salary Reduction Agreement in accordance with Section 4.01.

(bb) "Qualified Distribution" means a distribution from a Roth Contribution Account after the Participant has satisfied a five year holding period and has attained age 59½, died, or become Disabled, in accordance with Code Section 402A(d). The five year holding period is the period of five consecutive taxable years that begins with the first day of the first taxable year in which the Participant makes a designated Roth Contribution under the Plan or to another retirement plan which amount was directly rolled over to the Plan, and ends when five consecutive taxable years have been completed.

(cc) "Qualified Individual" means a Participant:

(1) who is diagnosed with the virus SARS-CoV-2 or with coronavirus disease 2019 (COVID-19) by a test approved by the Centers for Disease Control and Prevention;

(2) whose Spouse or dependent (as defined in Code Section 152) is diagnosed with such virus or disease by such a test; or

(3) who experiences adverse financial consequences as a result of:

(i) the Participant, the Participant's Spouse, or a member of the Participant's household (i) being quarantined, (ii) being furloughed or laid off or having work hours reduced due to such virus or disease, (iii) being unable to work due to lack of child care due to such virus or disease, (iv) having a reduction in pay (or self-employment income) due to such virus or disease, or (v) having a job offer rescinded or start date for a job delayed due to such virus or disease;

(ii) closing or reducing hours of a business owned or operated by the Participant, the Participant's Spouse, or a member of the Participant's household due to such virus or disease; or

(iii) other factors as determined by the Secretary of the Treasury (or the Secretary's delegate).

For purposes of this paragraph (cc), a member of the Participant's household means someone who shares the Participant's principal residence.

(dd) "Related Employer" means any entity which is under common control with the Employer under Code Section 414(b), (c), (m), or (o). The Employer shall determine which entities are Related Employers based on a reasonable, good faith standard and taking into account the special rules applicable under IRS Notice 89-23, 1989-1 C.B. 654.

(ee) "Rollover Contribution" means an amount contributed to the Plan pursuant to Section 4.03.

(ff) "Roth Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a Salary Reduction Agreement in accordance with Section 4.01, where the contribution has been (i) designated irrevocably by the Participant as a Roth Contribution being made in lieu of all or a portion of the Pre-Tax Contribution the Participant is otherwise eligible to make under the Plan, and (ii) treated by the Employer as includible in the Participant's gross income at the time the Participant would have received that amount in cash if the Participant had not made such an election. A Roth Contribution shall only be permitted with respect to Compensation paid on or after the date the Board has approved Roth Contributions under the Plan and the Vendor is able to administer Roth Contributions under the Plan.

(gg) "Salary Reduction Agreement" means an agreement entered into between an Employee and the Employer pursuant to Section 4.01, which may be in electronic or written form. Such agreement shall not be effective with respect to Compensation made available prior to the effective date of such agreement and shall be binding on the parties and irrevocable with respect to Compensation earned while it is in effect.

(hh) "Section" means, when not preceded by the word Code or ERISA, a section of the Plan.

(ii) "Severance from Employment" means the complete termination of the employment relationship between the Employee and the Employer and any Related Employer. For an Employee on a leave of absence, such separation shall occur when the leave of absence expires if the Employee does not return to service.

(jj) "Spouse" means the person to whom a Participant is married under federal law.

(kk) "State" means the State of Maryland acting through the Employer which has offered this Plan to its Employees.

(ll) "Trust" means a trust that satisfies the requirements of Code Section 457(g), including a custodial account and/or an annuity contract treated as qualified trust under Code Section 401(f) that satisfies the requirements of Code Section 457(g)(3), established under the Plan to hold Plan assets.

(mm) "Trust Fund" means the assets of the Plan held pursuant to the terms of the Plan and Trust.

(nn) "Trustee" means the Board; provided, however, that the entity or person(s) designated by the Administrator to hold the assets of a custodial account or hold an annuity contract in accordance with Code Sections 457(g)(3) and 401(f) shall be the custodial Trustee with respect to such assets.

(oo) "Unforeseeable Emergency Distribution" means a distribution made in accordance with Section 9.03 to a Participant on account of an unforeseeable emergency.

(pp) "USERRA" means the Uniformed Services Employment and Reemployment Rights Act of 1994, as amended from time to time.

(qq) "Vendor" means the service provider that has been approved by the Administrator to serve as third party administrator and/or recordkeeper for the Plan and/or to offer Investment Options to Participants under the Plan. The Vendor(s) are listed in Appendix A, as modified from time to time in the Administrator's sole and absolute discretion. A modification of Appendix A is not an amendment of the Plan.

(rr) "Vested" means the interest of the Participant or Beneficiary in his or her Account that is unconditional, legally enforceable, and nonforfeitable.

ARTICLE III **PARTICIPATION**

Section 3.01. Participation. An Employee may become a Participant in the Plan immediately after commencement of employment with the Employer. Participation in the Plan is voluntary.

Section 3.02. Notice and Enrollment.

(a) The Employer shall notify an Employee when he or she is eligible to participate in the Plan for purposes of Annual Deferrals.

(b) An Employee must complete the enrollment process and make investment elections with the Vendor on the Applicable Form, including a Salary Reduction Agreement for purposes of Annual Deferrals, to become a Participant in the Plan. An Employee who fails to complete the enrollment process and make investment elections with the Vendor on the Applicable Form shall be deemed to have waived all of his or her rights under the Plan, provided that such Employee may become a Participant in the Plan at any time thereafter by completing the enrollment process and making investment elections with the Vendor on the Applicable Form.

Section 3.03. Cessation of Contributions. A Participant shall cease to be eligible for Contributions under the Plan when he or she is no longer an Employee.

Section 3.04. Cessation of Participation. A Participant shall cease to be a Participant on the distribution of his or her entire interest in the Plan.

Section 3.05. Reemployment. A former Participant who is reemployed by the Employer shall immediately become a Participant in this Plan as of his or her date of rehire as an Employee.

ARTICLE IV. **CONTRIBUTIONS**

Section 4.01. Annual Deferrals.

(a) Subject to the limitations under Article V, an Employee who has satisfied the participation requirements under Section 3.01 may enter into a written Salary Reduction Agreement with the Employer agreeing to contribute each pay period Pre-Tax Contributions and/or , effective as soon as administratively practicable after the date approved by the Board, Roth Contributions to the Plan.

(b) Pre-Tax Contributions and Roth Contributions shall begin as soon as administratively practicable following the date specified in the Salary Reduction Agreement, or, if later or if no date is specified, as soon as administratively practicable after the Salary Reduction Agreement is filed with the Administrator or the Vendor, as applicable. Notwithstanding the preceding, prior to January 1, 2023, the Salary Reduction Agreement shall become effective no earlier than the first day of the month following the month in which the Salary Reduction Agreement is executed and submitted to the Administrator or the Vendor, as applicable; provided, however, that a new Employee may defer Compensation payable in the calendar month during which he or she first becomes an Employee if he or she enters into a Salary Reduction Agreement before the first day on which he or she performs services for the Employer.

(c) Pre-Tax Contributions and/or Roth Contributions shall reduce the Compensation otherwise payable to a Participant and shall be paid in cash to the Vendor by the Employer, on a basis consistent with its payroll practices, as soon as administratively feasible after being withheld from the Compensation of a Participant, but no later than 15 business days following the end of the month in which such amount is withheld from the Compensation of the Participant.

(d) If the Participant fails to designate whether Annual Deferrals are Pre-Tax Contributions or Roth Contributions, the Participant will be deemed to have designated his or her Annual Deferrals as Pre-Tax Contributions. Pre-Tax Contributions shall be allocated to the Pre-Tax Contribution Account of the Participant as of the date of contribution. Roth Contributions shall be allocated to the Roth Contribution Account of the Participant as of the date of contribution.

(e) A Salary Reduction Agreement shall remain in effect until superseded by another election or until the Administrator requires a Participant to complete a new Salary Reduction Agreement on a uniform and nondiscriminatory basis.

(1) A Participant may change his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing a new Salary Reduction Agreement with the Administrator or the Vendor, as applicable. Any such changes shall be effective as soon as administratively practicable following the date specified in the

new Salary Reduction Agreement, or, if later, as soon as administratively practicable after the Salary Reduction Agreement is filed; provided that, prior to January 1, 2023, the Salary Reduction Agreement shall become effective no earlier than the first day of the month following the month in which the Salary Reduction Agreement is executed and submitted to the Administrator.

(2) A Participant may terminate his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing the Applicable Form with the Administrator or the Vendor, as applicable, which shall be effective as soon as administratively practicable after the Applicable Form is filed.

(f) An election to make Pre-Tax Contributions and/or Roth Contributions shall not be valid with respect to any period during which the Participant is not an Employee. No election to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions shall be given retroactive effect.

(g) The Administrator may establish additional nondiscriminatory rules and procedures governing the manner and timing of elections by Participants to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions.

Section 4.02. Deferrals of Sick, Vacation, and Back-Pay.

(a) A Participant who has not had a Severance from Employment may elect to defer accumulated sick pay, accumulated vacation pay, and back-pay to the Plan if the requirements of Code Section 457(b) are satisfied and if permitted by Board policy and Maryland State law. These amounts may be deferred only if a Salary Reduction Agreement providing for the Annual Deferral is entered into before the amounts would otherwise be paid or made available and the Participant is an Employee on the date the amounts would otherwise be paid or made available; provided that, prior to January 1, 2025, the Salary Reduction Agreement must be entered into before the beginning of the month in which the amounts would otherwise be paid or be made available. Compensation that would otherwise be paid for a payroll period that begins before Severance from Employment is treated as an amount that would otherwise be paid or made available before an Employee has a Severance from Employment.

(b) In addition, Annual Deferrals may be made for former Employees with respect to Compensation paid after an Employee has a Severance from Employment.

Section 4.03. Rollover Contributions to the Plan.

(a) Subject to the Trust, Participants (prior to January 1, 2025, Participants who are Employees only) may transfer to the Plan as a Rollover Contribution a distribution from a Code Section 401(a) (including 401(k)) or 403(a) qualified plan (excluding after-tax contributions), a Code Section 403(b) plan (excluding after-tax contributions), a Code Section 408 individual retirement account or annuity, a SIMPLE IRA described in Code Section 408(p)(1) provided that the Rollover Contribution is made after the two year period described in Code Section 72(t)(6), or a Code Section 457(b) eligible deferred compensation plan which is maintained by an eligible employer described in Code Section 457(e)(1)(A). Any Rollover Contribution (i) shall be subject to the Vendor's determination, in its discretion, that the Rollover Contribution satisfies all applicable requirements of the Code and (ii) shall be made directly from such prior plan, or if

such amount was distributed to the Participant, such Rollover Contribution shall be made within 60 days after the Participant receives the rollover amount, unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance.

(b) The Vendor shall establish and maintain for the Participant a separate account for any Rollover Contribution paid to the Plan from any eligible retirement plan that is not an eligible governmental plan under Code Section 457(b). In addition, the Vendor shall establish and maintain for the Participant a separate account for any Rollover Contribution paid to the Plan from any eligible retirement plan that is an eligible governmental plan under Code Section 457(b).

(c) The Plan shall accept a Rollover Contribution of Roth amounts only if it is a direct rollover from a designated Roth account under an applicable retirement plan described in Code Section 402A(e)(1) and only to the extent the rollover is permitted under the rules of Code Section 402(c). A Rollover Contribution that includes a designated Roth account shall only be accepted if the Administrator obtains information regarding the Participant's tax basis under Code Section 72 in the amount rolled over and the first day of the Participant's taxable year in which the Participant first had Roth contributions made to such other designated Roth account.

(d) A Rollover Contribution shall be allocated to the Rollover Contribution Account of the Participant as of the date of the contribution. A Rollover Contribution from a designated Roth account shall be allocated to a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions as of the date of the contribution. Before a Rollover Contribution is made, the Participant shall designate on the Applicable Form the Investment Options in which the Vendor should invest the Participant's Rollover Contribution.

Section 4.04. In-Plan Roth Rollovers.

(a) Any portion or all of a Participant's Vested Account (other than a Roth Contribution Account or a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon) is eligible for direct rollover to the Participant's Roth Contribution Account under the Plan, even if the Vested Account is not otherwise distributable (pursuant to Code Section 402A(c)(4)(E)) under Article IX of the Plan, and the transfer shall be treated as a qualified rollover contribution (within the meaning of Code Section 408A(e)) to the Participant's Roth Contribution Account.

(b) A Participant's election under this Section 4.04 shall be subject to the reasonable administrative procedures established by the Administrator, Code Section 402A(c)(4) and the regulations thereunder, and subsequent guidance from the Internal Revenue Service.

(c) The taxable portion of the Participant's Account directly rolled over to a Roth Contribution Account under this Section 4.04 shall be included in the Participant's gross income in the tax year in which the transfer occurs.

(d) To the extent required by Code Section 402(f), the Administrator shall provide written information regarding in-Plan Roth rollovers under this Section 4.04, for amounts that are otherwise distributable under Article IX.

Section 4.05. Leave of Absence. During a paid leave of absence, Pre-Tax Contributions and/or Roth Contributions shall continue to be made for a Participant on the basis of Compensation paid by the Employer during the leave. No Contributions shall be made during an unpaid leave of absence.

Section 4.06. Plan Expenses. All reasonable expenses of administering the Plan shall be charged against and paid from the Participant's Accounts, subject to the terms of the Trust, unless paid by the Employer. The Administrator shall have the right to allocate expenses associated with maintaining the Accounts of terminated Employees to such Accounts, even if no expenses are allocated to the Accounts of active Employees, in accordance with rules promulgated by the Internal Revenue Service.

ARTICLE V.
LIMITATIONS ON CONTRIBUTIONS

Section 5.01. Annual Deferral Limits.

(a) The maximum amount of Annual Deferrals to the Plan for any calendar year shall be limited to the lesser of (i) the applicable dollar amount as provided in Code Section 457(e)(15) increased by the Cost of Living Adjustment in effect for such calendar year or (ii) the Participant's Includible Compensation as provided in Code Section 457(b)(2).

(b) A Participant who will attain age 50 or more by the end of the calendar year, and who is contributing up to the applicable dollar amount under paragraph (a), may make additional Annual Deferrals up to the applicable dollar amount under Code Section 414(v), as increased by the Cost of Living Adjustment in effect for such calendar year. Effective January 1, 2025, the adjusted dollar amount under Code Section 414(v)(2)(E), as increased by the Cost of Living Adjustment in effect for such calendar year, shall apply to Participants who will attain age 60 but will not attain age 64 by the end of the calendar year.

(c) Effective January 1, 2026, or such later effective date determined by the Secretary of the Treasury through guidance and subject to such guidance, with respect to a Participant whose wages within the meaning of Code Section 3121(a) for the preceding calendar year from the Employer exceed the limitation under Code Section 414(v)(7)(A), paragraph (b) shall apply only if the Participant elects or is deemed to have elected the additional amount of Elective Deferrals to be made as Roth Contributions. The wage limitation under this paragraph (c) shall be adjusted for the Cost of Living Adjustment in effect for such calendar year.

(d) If the applicable year is one of a Participant's last three calendar years ending before the year in which the Participant attains Normal Retirement Age and the amount determined under this paragraph (d) exceeds the amount computed under paragraphs (a) and (b), then the Annual Deferral limit under this Article V shall be the lesser of:

(1) An amount equal to two times the applicable dollar amount under paragraph (a) for such year; or

(2) The sum of:

(i) An amount equal to (A) the aggregate limit under paragraph (a) for the current calendar year plus each prior calendar year beginning after December

31, 2001, during which the Participant was an Employee under the Plan, minus (B) the aggregate amount of Compensation that the Participant deferred under the Plan during such years, plus

(ii) An amount equal to (A) the aggregate limit referred to in Code Section 457(b)(2) for each prior calendar year beginning after December 31, 1978, and before January 1, 2002, during which the Participant was an Employee (determined without regard to paragraphs (b) or (c)), minus (B) the aggregate contributions to Pre-2002 Coordination Plans (as defined by Treasury Regulations and provided in Section 5.02(c)) for such years.

However, in no event can the Annual Deferrals be more than the Participant's Compensation for the year. A Participant may not have more than one Normal Retirement Age under the Plan.

Section 5.02. Coordination of Limits.

(a) If the Participant is or has been a participant in one or more other eligible plans within the meaning of Code Section 457(b), then this Plan and all such other plans shall be considered as one plan for purposes of applying the foregoing limitations of this Article V. For this purpose, the Administrator shall take into account any other such eligible plan maintained by the Employer and shall also take into account any other such eligible plan for which the Administrator receives from the Participant sufficient information concerning his or her participation in such other plan.

(b) In applying Section 5.02, a year shall be taken into account only if (i) the Participant was eligible to participate in the Plan during all or a portion of the year and (ii) Compensation deferred, if any, under the Plan during the year was subject to the applicable dollar amount described in Section 5.01(a) or any other plan ceiling required by Code Section 457(b).

(c) For purposes of Section 5.01(c)(2)(ii), "contributions to Pre-2002 Coordination Plans" means any employer contribution, salary reduction, or elective contribution under any other eligible Code Section 457(b) plan, or a salary reduction or elective contribution under any Code Section 401(k) qualified cash or deferred arrangement, Code Section 402(h)(1)(B) simplified employee pension (SARSEP), Code Section 403(b) annuity contract, and Code Section 408(p) simple retirement account, or under any plan for which a deduction is allowed because of a contribution to an organization described in Code Section 501(c)(18), including plans, arrangements or accounts maintained by the Employer or any employer for whom the Participant performed services. However, the contributions for any calendar year are only taken into account for purposes of Section 5.01(c)(2)(ii) to the extent that the total of such contributions does not exceed the aggregate limit referred to in Code Section 457(b)(2) for that year.

(d) For 2002 and thereafter, any amounts contributed by the Participant to a tax-sheltered annuity pursuant to Code Section 403(b) or to a 401(k) plan pursuant to Code Section 402(e)(3) shall not reduce the maximum Annual Deferrals under Section 5.01.

(e) An individual is treated as not having deferred compensation under a plan for a prior taxable year to the extent excess deferrals under the plan are distributed, as described in

Section 5.03. To the extent that the combined deferrals for pre-2002 years exceeded the maximum deferral limitations, the amount is treated as an excess deferral for those prior years.

(f) The Participant is responsible for ensuring coordination of these limits.

Section 5.03. Correction of Excess Annual Deferrals. If the Annual Deferral on behalf of a Participant for any calendar year exceeds the limitations described under this Article V, or the Annual Deferral on behalf of a Participant for any calendar year exceeds the limitations described under this Article V when combined with other amounts deferred by the Participant under another eligible deferred compensation plan under Code Section 457(b) for which the Participant provides information that is accepted by the Administrator, then the Annual Deferral, to the extent in excess of the applicable limitation and adjusted for Allocable Income shall be distributed to the Participant as soon as administratively practicable. Subject to the terms of the Trust, if a Participant who made both Pre-Tax Contributions and Roth Contributions for a calendar year has excess amounts for that year, the excess Annual Deferrals will be distributed out of the Roth Contribution Account unless the Participant elects to instead have the excess Annual Deferrals distributed out of the Pre-Tax Contribution Account.

ARTICLE VI. **ACCOUNTING**

Section 6.01. Participant Accounts. The Vendor(s) shall establish and maintain adequate records to reflect the Accounts of each Participant and Beneficiary. Credits and charges shall be made to such Accounts to reflect additions, distributions, and withdrawals, and to reflect gains or losses pursuant to the terms of the Trust. The maintenance of individual Accounts is for accounting purposes only, and a segregation of Plan assets to each Account shall not be required.

Section 6.02. Participant Statements. The Vendor(s) shall provide to each Participant a quarterly statement reflecting the value of the Participant's Account as of the end of each quarter, and shall provide similar information to the Administrator upon its request.

Section 6.03. Value of Account. The value of the Account of a Participant as of any valuation date is the value of the Account Balance as determined by the Vendor. The valuation date shall be the last day of the Plan Year and each other date designated by the Administrator or Vendor in a uniform and nondiscriminatory manner. All transactions and Account records shall be based on fair market value.

ARTICLE VII. **DECLARATION OF TRUST**

Section 7.01. The Trust. Each Participant in the Plan shall have Accounts within the Trust Fund created by the Administrator under Article V. The Administrator may designate those individuals or institutions who shall act as custodial trustees under this Plan from time to time, and execute such further agreements with them as the Administrator shall deem necessary. The Administrator may designate more than one institution to act as custodial trustee, or may create sub-trusts. To the extent permitted by federal tax law, custodial accounts and annuity contracts may serve as trusts and the Administrator may use such combination of trusts and custodial accounts and annuity contracts to hold Plan assets as it shall see fit. Any reference to

the Trust Fund shall include such custodial accounts or annuity contracts unless the context clearly indicates to the contrary. As further described in this Article, each Plan Account, and the Trust Fund as a whole, shall be held in trust for the exclusive benefit of Participants and their Beneficiaries, under the requirements of Code Section 457(g), and the State Personnel and Pensions Article of the Annotated Code of Maryland (1978, 2004 Repl. Vol.). This Declaration of Trust shall apply to all future contributions and earnings of the Plan and Trust. This Declaration of Trust shall not be interpreted as prohibiting the use of Plan assets to pay fees and other expenses incurred in the maintenance, administration and investment of the Trust Fund, custodial accounts, or annuity contracts, or the Participant's share of Plan administration expense.

Section 7.02. Identification of Trust Assets. All assets of the Plan shall be held in trust or in custodial or annuity contracts as described herein by the Trustees for the exclusive benefit of Participants and their Beneficiaries. Such Trust Fund, and the investments, accounts, contracts, securities and other intangible property and rights that make up the Trust Fund and Plan assets, shall be sufficiently identified by the Trustees and any custodial trustees so that its status as Trust property, or Plan contracts and the individual interests therein, can always be determined. The Trustees shall take all reasonable and necessary steps to execute any documents necessary to effect such trust status or insurance company contract status for existing or future Plan assets.

Section 7.03. Fiduciary Status and Delegation of Duties. The Board is a fiduciary of Plan assets, custodial accounts, or annuity contracts only to the extent required by applicable provision of the Annotated Code of Maryland or the Code. The assumption of fiduciary status by the Board hereunder shall not extend to, or create, any liability or duty to a Participant with respect to the Investment Options offered for Participant selection. No provision of this Plan shall be construed in any manner that would be inconsistent with the duties and responsibilities specified herein. The Board, as an entity, may: (a) allocate duties and responsibilities under this Plan to one or more of its members; (b) designate one or more persons or entities in their employ to perform such duties and responsibilities; and (c) determine any matter with respect to this Plan by a majority vote of those individuals then constituting the Board.

Section 7.04. Unclaimed Benefit Payments. If any check or share certificate in payment of a benefit hereunder, which has been mailed by regular United States first-class mail to the last address of the payee furnished to the Vendors by the Administrator or the Participant or Beneficiary, is returned unclaimed, the Vendors shall follow such procedures regarding unclaimed benefit payments that the Administrator has established.

Section 7.05. Duty to Furnish Information. Both the Administrator and the Vendors shall furnish to each other any document, report, return, statement or other information that the other reasonably deems necessary to perform duties imposed under this Plan and Trust or otherwise imposed by law.

Section 7.06. Deposits And Disbursements From The Trust.

(a) The Board, acting through the Administrator, shall delegate to the Vendors the responsibility for accepting deposits to this Plan and Trust.

(b) The Board, acting through the Administrator, shall delegate to the Vendors the responsibility for making payments from the Trust. The Vendors shall make payments from the

Trust to Participants, their Beneficiaries and such other persons as the Plan may provide for from time to time. Such payments shall be made in such manner, in such amounts and for such purposes, including the payment of Plan benefits and the payment of expenses of administration of the Plan, as may be specified in the Plan. The Vendors shall ensure that any payment directed under this Section conforms to the provisions of this Plan and Trust and the provisions of any applicable law. Payments from the Trust shall be made by check (or the check of an agent) or deposit to the order of the payee. Payments or other distributions hereunder may be mailed to the payee at the address last furnished to the Vendors by the Administrator. The Vendors shall not incur any liability or other damage on account of any payment or other distribution made by the Trust in accordance with this Section.

(c) All expenses of the Trust shall be paid from the Trust to the extent not paid by the Employer. All expenses of the Trust which are allocable to a particular Investment Option or Account may be allocated and charged to such Investment Option or Account as determined by the Trustees. All expenses of the Trust which are not allocable to a particular Investment Option or Account shall be charged to each such Investment Option or Account in proportion to the value of such Investment Options and Accounts as of the close of business of the immediately preceding valuation date.

Section 7.07. Resignation And Removal Of Trustees. Any custodial trustee may resign at any time in writing to the Administrator. Any custodial trustee may be removed by the Administrator. Upon such resignation or removal, a successor trustee shall be appointed by the Administrator, and shall have the same powers and duties as those conferred upon the custodial trustees hereunder.

Section 7.08. No Guarantees. Neither the Board nor the Administrator guarantees the Trust from loss or depreciation or the payment of any amount which may become due to any person under this Plan and Trust.

Section 7.09. Parties Bound. This Plan and Trust shall be binding upon the parties hereto, all Participants in this Plan and Trust and persons claiming under or through them pursuant to this Plan and Trust, and, as the case may be, the heirs, executors, administrators, successors and assigns of each of them.

Section 7.10. Exclusive Benefit Rule. An Annual Deferral shall be delivered by the State to the Vendor who shall hold such amounts in trust for the exclusive benefit of Participant and Beneficiaries, to be paid by the Vendor, to the Participant pursuant to Article V.

ARTICLE VIII. **INVESTMENT OF ACCOUNTS**

Section 8.01. Vendors and Investment Options.

(a) All Contributions under the Plan shall be transferred to the Vendor(s) to be held, managed, invested and distributed in accordance with the provisions of the Plan and the Trust as applicable. All benefits under the Plan shall be distributed solely from the Trust, and the Employer shall have no liability for any such benefits other than the obligation to make Contributions as provided in the Plan.

(b) Participants' Accounts shall be invested in one or more of the Investment Options available to Participants under this Plan, as selected by the Administrator and communicated to Participants. The Administrator's current selection of Vendor(s) and Investment Options is not intended to limit future additions or deletions of Vendor(s) or Investment Options.

(c) A Participant shall have the right to direct the investment of his or her Accounts by filing the Applicable Form with the Vendor(s). A Participant may change his or her investment election as often as determined by the Vendor(s). A Participant may elect to transfer all or any portion of his or her Accounts invested in any one Investment Option to another Investment Option, regardless of whether offered by the same or a different Vendor, subject to the limitations of the Trust, by filing a request on the Applicable Form with the Vendor(s) or by such other means that may be provided for by the Vendor(s). A Participant may also elect to transfer all or any portion of his or her Accounts invested with a Former Vendor to an Investment Option with a Vendor, subject to the terms of the Trust. In no event, however, may a Participant transfer any portion of his or her Accounts invested with a Vendor to an Investment Option with a Former Vendor or any other vendor that is not approved to receive Contributions under the Plan.

Section 8.02. Exclusive Benefit. The Trust shall provide for it to be impossible, prior to the satisfaction of all liabilities with respect to Participants and their Beneficiaries, for any part of the assets and income of the Trust to be used for, or diverted to, purposes other than for the exclusive benefit of Participants and Beneficiaries.

Section 8.03. Default Investments. If a Participant does not have a valid and complete investment direction on file with the Vendor on the Applicable Form, Contributions will be invested in a default Investment Option selected by the Administrator in its sole and absolute discretion, until the Participant makes an affirmative election regarding the investment of his or her Account.

ARTICLE IX. **DISTRIBUTIONS**

Section 9.01. Commencement of Distributions.

(a) A Participant or, if applicable, a Beneficiary, shall be eligible to receive a distribution of his or her Vested Account under the Plan if the Participant:

- (1) has a Severance from Employment;
- (2) dies;
- (3) attains age 70½; or
- (4) qualifies for an Unforeseeable Emergency Distribution, a small account distribution, or Coronavirus-Related Distribution.

(b) Subject to the terms of the Trust, Participants may elect to have either Pre-Tax Contributions or Roth Contributions distributed from the Plan first. Unless provided otherwise under the terms of the Trust, if the Participant fails to make an election, Pre-Tax Contributions will be distributed from the Plan first.

(c) Subject to the terms of the Trust, a Rollover Contribution Account may be distributed to a Participant at any time, to the extent that Rollover Contributions have been separately accounted for by the Vendor.

(d) A Participant or Beneficiary may submit a request for a distribution to the Vendor on the Applicable Form. The Employer shall certify that the Participant has had a Severance from Employment.

Section 9.02. Form of Distribution.

(a) A Participant may elect to receive his or her Vested Account under any payment option available under the Trust. Subject to the terms of the Trust, these may include, but are not necessarily limited to, a single lump sum, annuity payments, and installment payments. All forms of payment shall be subject to the limitations of the Trust.

(b) To the extent permitted by the Trust, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account Balance does not exceed \$1,000 (determined without regard to his or her Rollover Contribution Account), unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.

(c) To the extent permitted by the Trust, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account Balance exceeds \$1,000 but does not exceed \$7,000 (before January 1, 2024, \$5,000) determined without regard to his or her Rollover Contribution Account, provided that such distribution shall be made in a direct rollover to an individual retirement plan designated by the Administrator, unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.

Section 9.03. Unforeseeable Emergency Distributions.

(a) To the extent (i) a Vendor has been approved by the Administrator to allow Unforeseeable Emergency Distributions under the Plan and (ii) an Unforeseeable Emergency Distribution is permitted by the terms governing the Trust, and subject to guidelines and requirements set forth in procedures established by the Administrator, distribution of Annual Deferrals may be made to a Participant in the event of an unforeseeable emergency. If the Participant has an unforeseeable emergency before Severance from Employment, the Participant may elect to receive a lump sum distribution equal to the amount requested or, if less, the maximum amount determined by the Administrator to be permitted to be distributed under this Section. No Unforeseeable Emergency Distributions shall be permitted from Trusts held by Former Vendors.

(b) All requests for Unforeseeable Emergency Distributions shall be made initially to the Administrator or such other entity as may be designated by the Administrator from time to time. Any decision made by the Administrator or its designee shall be final and conclusive. The Administrator may establish restrictions following a distribution pursuant to this Section.

(c) An unforeseeable emergency is defined as a severe financial hardship of the Participant resulting from:

(1) an illness or accident of the Participant, the Participant's Spouse, or the Participant's dependent (as defined in Code Section 152 without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(2) loss of the Participant's property due to casualty (including the need to rebuild a home following damage to a home not otherwise covered by homeowner's insurance, *e.g.*, as a result of a natural disaster);

(3) the need to pay for the funeral expenses of the Participant's Spouse, or dependent (as defined in Code Section 152 without regard to Code Section 152(d)(1)(B)); or

(4) other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant; for example, the imminent foreclosure of or eviction from the Participant's primary residence may constitute an unforeseeable emergency.

In addition, the need to pay for medical expenses for the Participant or the Participant's Spouse or dependent (as defined in Code Section 152 without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B)), including non-refundable deductibles, as well as for the cost of prescription drug medication, may constitute an unforeseeable emergency. Except as otherwise specifically provided in this Section, neither the purchase of a home nor the payment of college tuition is an unforeseeable emergency.

(d) An Unforeseeable Emergency Distribution may not be made to the extent that an unforeseeable emergency is or may be relieved through reimbursement or compensation from insurance or otherwise, by liquidation of the Participant's assets, to the extent the liquidation of such assets would not itself cause severe financial hardship, or by cessation of Annual Deferrals under the Plan.

(e) An Unforeseeable Emergency Distribution may not exceed the amount reasonably necessary to satisfy the emergency need (which may include any amounts necessary to pay any federal, state, or local income taxes or penalties reasonably anticipated to result from the distribution).

(f) The Administrator may further limit and/or prohibit Unforeseeable Emergency Distributions for classes of accounts maintained under the Plan.

Section 9.04. Small Account Distribution.

(a) A Participant who is an Employee may elect to receive a distribution of the Participant's Account under the Plan before a Severance from Employment if the following requirements are met:

(1) the Participant's Account (not including his or her Rollover Contribution Account) does not exceed the amount specified under Code Section 411(a)(11) (as of January 1, 2024, \$7,000) on the date of the distribution;

(2) the Participant has not previously received an in-service distribution of the Participant's Account under this Section; and

(3) no Annual Deferrals have been made to the Plan with respect to the Participant during the two year period ending on the date of the in-service distribution under this Section.

(b) This election must be made in accordance with the procedures established by the Administrator.

Section 9.05. Coronavirus-Related Distributions.

(a) Subject to the terms of the Trust, a Participant who is a Qualified Individual may, on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), and before December 31, 2020, request one or more Coronavirus-Related Distributions from his or her Accounts regardless of whether he or she has had a Severance from Employment, subject to the following conditions:

(1) Coronavirus-Related Distributions to a Participant from this Plan and all other plans maintained by the Employer or a Related Employer may not exceed \$100,000; and

(2) A Participant shall certify to the Administrator or Vendor that he or she is a Qualified Individual prior to receiving a Coronavirus-Related Distribution.

(b) A Participant who has received a Coronavirus-Related Distribution from the Plan may, at any time during the three year period beginning on the day after the date on which such distribution was received repay such Coronavirus-Related Distribution by making one or more Rollover Contributions to the Plan which, in an aggregate amount, do not exceed the amount of such Coronavirus-Related Distribution. The preceding sentence shall not apply to any Participant who is not eligible to make a Rollover Contribution to the Plan under Section 4.03.

Section 9.06. Reemployment. If a Participant who is a former Employee subsequently becomes an Employee again, the Participant cannot request a distribution of his or her Vested Account until he or she is again entitled to a distribution under Section 9.01

Section 9.07. Death Benefits. If a Participant dies before the distribution of his or her entire Account, his or her remaining Account shall be distributed to his or her Beneficiary(ies) as soon as administratively practicable after the Participant's death, unless the Beneficiary elects a later payment date on the Applicable Form, subject to Code Section 401(a)(9). A Beneficiary may elect to receive the Participant's Account under any distribution option available under the Section 9.02, subject to Code Section 401(a)(9).

Section 9.08. Required Distribution Rules.

(a) The provisions of this Section 9.08 take precedence over any inconsistent provisions of the Plan or of the Trust. All distributions under this Plan shall be made in accordance with a reasonable good faith interpretation of Code Section 401(a)(9) and the regulations promulgated thereunder, including the incidental death benefit rules under Code Section 401(a)(9)(G) and the changes under the Setting Every Community Up for Retirement Enhancement (SECURE) Act of 2019, SECURE 2.0 of 2022, and Treasury Regulation Sections 1.401(a)(9)-1 through -9, as each may be amended from time to time.

(b) Distributions may only be made over one of the following periods (or a combination thereof):

- (1) The life of the Participant;
- (2) The life of the Participant and a Designated Beneficiary;
- (3) A period certain not extending beyond the life expectancy of the Participant; or
- (4) A period certain not extending beyond the joint and last survivor life expectancy of the Participant and Designated Beneficiary;

provided, however, that distributions under this paragraph (b) that are paid in calendar years 2024 and later during the lifetime of the Participant shall be determined without regard to the Participant's Roth Contribution Account or to any subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon.

(c) A Participant's Accounts shall be distributed to the Participant beginning no later than April 1 of the calendar year following the later of (i) the calendar year in which the Participant attains his or her applicable age within the meaning of Code Section 401(a)(9)(C)(v) or (ii) the calendar year in which the Participant has a Severance from Employment.

(d) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant before distribution of his or her Account has begun under paragraph (c), the following distribution provisions shall take effect:

(1) The portion of the Participant's Account(s) payable to a Beneficiary that is not a Designated Beneficiary shall be distributed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(2) The portion of the Participant's Account(s) payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(3) The portion of the Participant's Account(s) payable to an Eligible Designated Beneficiary shall be distributed, pursuant to the election of the Eligible Designated Beneficiary, either (i) by December 31 of the calendar year containing the tenth anniversary of the Participant's death, or (ii) beginning no later than December 31 of the calendar year immediately following the calendar year in which the Participant died, over the life of the Eligible Designated Beneficiary or over a period not exceeding the life expectancy of the Eligible Designated Beneficiary. If the Eligible Designated Beneficiary does not elect a method of distribution as provided above, the Participant's Account(s) shall be distributed in accordance with item (i). Notwithstanding the foregoing, if the Eligible Designated Beneficiary is the surviving Spouse, he or she will be deemed to have elected payments consistent with an election under Code Section 401(a)(9)(B)(iv).

(e) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant after distribution of his or her Account has begun under paragraph (c), any remaining portion of his or her Account shall continue to be distributed at least as rapidly as under the method of distribution in effect at the time of the Participant's death; provided, however, that the portion of the Participant's Account payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed in its entirety by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(f) Upon the death of an Eligible Designated Beneficiary, or the attainment of age 21 of an Eligible Designated Beneficiary who is a minor child of the Participant, before distribution of the Participant's entire Account under paragraphs (d) or (e), the remainder of the Participant's Account shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Eligible Designated Beneficiary's death, or by December 31 of the calendar year in which the child attains age 31, as applicable.

(g) Any distribution required under the incidental death benefit requirements of Code Section 401(a) shall be treated as a distribution required under this Section 9.08.

(h) Each Vendor shall be separately and solely responsible for complying with the provisions of this Section 9.08 with respect to the Trust Funds it holds under the Plan. The Vendor shall calculate the amounts required to be distributed to a Participant under this Section and notify such Participant of such distributions at least 60 days prior to the date distributions must begin.

(i) Notwithstanding anything in this Section 9.08 to the contrary, for 2020 the minimum distribution requirements will be satisfied as provided in this section, as determined by the terms of the Trust.

(1) Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive a required minimum distribution in 2020 (or paid in 2021 for the 2020 calendar year for a Participant with a required beginning date of April 1, 2021) but for the enactment of Code Section 401(a)(9)(I) ("2020 RMDs") and who would have satisfied that requirement by receiving distributions that are either (i) equal to the 2020 RMDs, or (ii) one or more payments (that include the 2020 RMDs) in a series of substantially equal periodic payments made at least annually and expected to last for the life (or life expectancy) of the Participant, the joint lives (or joint life expectancies) of the Participant and the Beneficiary, or for a period of at least 10 years ("Extended 2020 RMDs"), will not receive this distribution unless the Participant or Beneficiary chooses to receive the distribution. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to receive the distribution described in the preceding sentence.

(2) Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive a 2020 RMD, and who would have satisfied that requirement by receiving distributions that are (i) equal to the 2020 RMDs or (ii) Extended 2020 RMDs, will receive this distribution unless the Participant or Beneficiary chooses not to receive such distributions.

Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to stop receiving the distribution described in the preceding sentence.

(3) In addition, solely for purposes of applying the direct rollover provisions of Article XII, 2020 RMDs and Extended 2020 RMDs will or will not be treated as eligible rollover distributions in 2020 as determined by the terms of the Trust.

ARTICLE X. **LOANS**

Section 10.01. Loans Generally.

(a) To the extent (i) a Vendor has been approved by the Administrator to allow loans under the Plan and (ii) loans are permitted by the terms governing the applicable Trust, loans shall be available to a Participant who is an Employee from his or her Vested Account. No loans shall be permitted from Trust Funds held by Former Vendors.

(b) Loans shall be subject to all applicable requirements and restrictions of the Code, including the provisions of Code Section 72(p) and the regulations thereunder. A Participant who has defaulted on a loan shall not be entitled to a future loan under the Plan until it has been fully repaid to the Plan.

(c) All loans shall be subject to the approval of the Vendor. The Vendor may charge a reasonable processing fee with respect to any loan.

(d) If a Participant who is a Qualified Individual has an outstanding loan on or after March 27, 2020, and certifies that he or she is a Qualified Individual, and the Vendor has been approved by the Administrator to administer delayed loan repayments under the Plan, this paragraph (d) shall apply:

(1) if the due date under Code Section 72(p) for any repayment with respect to such loan occurs during the period beginning on March 27, 2020, and ending on December 31, 2020, such due date shall be delayed for one year subject to the terms of the Trust;

(2) any subsequent repayments with respect to any such loan shall be appropriately adjusted to reflect the delay in the due date under paragraph (1) and any interest accruing during such delay; and

(3) in determining the five year period and the term of a loan under Code Section 72(p), the period described in paragraph (1) shall be disregarded.

Section 10.02. Loan Procedures. The Vendor shall establish written procedures to govern Participant loans under the Plan, which may be amended from time to time. All loans shall comply with such procedures, and shall be administered subject to the terms of the Trust.

Section 10.03. Loan Limits.

(a) No loan to a Participant under the Plan may exceed the lesser of:

(1) \$50,000, reduced by the greater of (i) the outstanding balance on any loan from the Plan to the Participant on the date the loan is made or (ii) the highest outstanding balance on loans from the Plan to the Participant during the one-year period ending on the day before the date the loan is approved by the Vendor (not taking into account any payments made during such one-year period); or

(2) One-half of the value of the Participant's Vested Account (as of the valuation date immediately preceding the date on which such loan is approved by the Vendor).

Notwithstanding the foregoing, with respect to any loan made to a Participant who is a Qualified Individual on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before September 24, 2020, the loan limits under this paragraph (a) shall apply by substituting (i) "\$100,000" for "\$50,000" under subparagraph (a)(1), and (ii) "The value of the Participant's Vested Account" for "One-half of the value of the Participant's Vested Account" under subparagraph (a)(2).

(b) For purposes of this Section, any loan from any other plan maintained by the Employer and any Related Employer shall be treated as if it were a loan made from the Plan, and the Participant's vested interest under any such other plan shall be considered a Vested interest under this Plan; provided, however, that the provisions of this paragraph shall not be applied so as to allow the amount of a loan to exceed the amount that would otherwise be permitted in the absence of this paragraph.

(c) The Administrator shall take such steps as appropriate to coordinate the limitations on loans, including collection of information from Vendors, and transmission of information requested by any Vendor. The Administrator may delegate this responsibility to a Vendor or to another service provider pursuant to Article XII of the Plan.

ARTICLE XI. **VESTING**

A Participant or, in the event of the Participant's death, the Beneficiary, shall be 100% Vested in his or her Accounts at all times.

ARTICLE XII. **ELIGIBLE ROLLOVERS FROM THIS PLAN**

Section 12.01. Definitions for this Article. For purposes of this Article, the following definitions shall apply.

(a) "Direct Rollover" means an Eligible Rollover Distribution that is paid directly to an Eligible Retirement Plan for the benefit of the Distributee.

(b) "Distributee" means a Participant, the Spouse of the Participant, the Participant's former Spouse who is an alternate payee within the meaning of Code Section 414(p)(8), and, effective January 1, 2008, a Participant's non-Spouse Beneficiary, any of whom is eligible to receive a distribution from the Plan.

(c) "Eligible Retirement Plan," as defined under Code Section 402(c)(8)(B), means:

- (1) an individual retirement account described in Code Section 408(a);
- (2) an individual retirement annuity (other than an endowment contract) described in Code Section 408(b);
- (3) a simple retirement account described in Code Section 408(p)(1) following the two year period described in Code Section 72(t)(6);
- (4) any annuity plan described in Code Section 403(a);
- (5) a plan described in Code Section 403(b);
- (6) a qualified plan described in Code Section 401(a);
- (7) a Code Section 457(b) eligible deferred compensation plan which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state; and
- (8) effective January 1, 2008, a Roth individual retirement account described in Code Section 408A(e), provided the Distributee's adjusted gross income does not exceed any limit applicable under federal law for the tax year in which the distribution occurs.

Effective January 1, 2008, in the case of a distribution to a Participant's non-Spouse Beneficiary, an Eligible Retirement Plan shall mean the plans described in subparagraphs (1) and (2) only, to the extent consistent with the provisions of Code Section 402(c)(11) and any successor provisions thereto or additional guidance issued thereunder.

(d) "Eligible Rollover Distribution," as defined in Code Section 402(f)(2)(A), means any distribution of all or any portion of the balance to the credit of the Distributee under this Plan, except that an Eligible Rollover Distribution does not include:

- (1) any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the Distributee or the joint lives (or joint life expectancies) of the Distributee and the Distributee's designated Beneficiary, or for a period of ten years or more;
- (2) any distribution to the extent such distribution is required under Code Section 401(a)(9);
- (3) the portion of any distribution that is not includible in gross income; provided, however, a portion of a distribution shall not fail to be an Eligible Rollover Distribution merely because the portion consists of after-tax employee contributions that are not includible in gross income. However, such portion may be transferred only:
 - (i) to an individual retirement account or annuity described in Code Section 408(a) or 408(b), respectively, or to a qualified defined contribution plan described in Code Section 401(a) that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of such

distribution which is not so includible;

(ii) to a qualified defined benefit plan described in Code Section 401(a) or to an annuity contract described in Code Section 403(b), that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of the distribution that is not so includible; or

(iii) to a Roth IRA described in Code Section 408A;

(4) any distribution which is made upon the financial hardship of the Participant; and

(5) other items designated by regulations, or by the Commissioner in revenue rulings, notices, or other guidance, as items that do not constitute an eligible rollover distribution.

Section 12.02. Direct Transfer of Eligible Rollover Distribution. A Distributee may elect on an Applicable Form to have an Eligible Rollover Distribution paid directly to an Eligible Retirement Plan as specified by the Distributee in a Direct Rollover, at the time and in the manner prescribed by the Vendor. An Eligible Rollover Distribution that is paid to an Eligible Retirement Plan in a Direct Rollover is excludable from the Distributee's gross income under Code Section 402; provided, however, if any portion of such Eligible Rollover Distribution is subsequently distributed from the Eligible Retirement Plan, that portion shall be included in gross income to the extent required under Code Section 402, 457, or 408.

Section 12.03. Mandatory Withholding of Eligible Rollover Distributions.

(a) If the Distributee of an Eligible Rollover Distribution does not elect to have the Eligible Rollover Distribution paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover pursuant to Code Section 401(a)(31), the Eligible Rollover Distribution shall be subject to a mandatory 20% federal income tax withholding under Code Section 3405(c). Only that portion of the Eligible Rollover Distribution that is not paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover shall be subject to the mandatory withholding requirement under Code Section 3405(e), and only to the extent such amount would otherwise be includible in the Distributee's taxable gross income.

(b) If a Distributee elects to have an Eligible Rollover Distribution paid to the Distributee, the distribution may be excluded from gross income of the Distributee provided that said distribution is contributed to an Eligible Retirement Plan no later than the 60th day following the day on which the Distributee received the distribution.

(c) If the Plan distribution is not an Eligible Rollover Distribution, said distribution shall be subject to the elective withholding provisions of Code Section 3405(a) and (b).

Section 12.04. Explanation of Plan Distribution and Withholding Requirements. Not fewer than 30 days nor more than 180 days before an Eligible Rollover Distribution, the Vendor shall provide each Distributee a written explanation as required under Code Section 402(f), which explains the rules:

(a) under which a Distributee may elect to have an Eligible Rollover Distribution paid in a Direct Rollover to an Eligible Retirement Plan;

(b) that require the withholding of tax on an Eligible Rollover Distribution if it is not paid in a Direct Rollover to an Eligible Retirement Plan;

(c) that provide that a distribution shall not be subject to tax if the distribution is rolled over to an Eligible Retirement Plan within 60 days after the date the Distributee receives the distribution (unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance); and

(d) if applicable, certain special rules regarding taxation of the distribution as described in Code Sections 402(d) and (e).

Notwithstanding the above, a distribution may begin fewer than 30 days after the notice discussed in the preceding sentence is given, provided that the Vendor clearly informs the Participant that he or she has a right to a period of at least 30 days after receiving the notice to consider the decision of whether or not to elect a distribution and the Participant, after receiving a notice, affirmatively elects a distribution.

ARTICLE XIII. **PLAN-TO-PLAN TRANSFERS**

Section 13.01. Plan-to-Plan Transfers.

(a) A transfer from this Plan to the State of Maryland Deferred Compensation Plan and Trust ("MSRP 457(b) Plan"), a Code Section 457(b) eligible deferred compensation plan maintained by an eligible employer described in Code Section 457(e)(1)(A) within the State of Maryland, is permitted under the following conditions:

(1) The MSRP 457(b) Plan provides for the receipt of plan-to-plan transfers;

(2) Unless the MSRP 457(b) Plan and the Plan are maintained by the same Employer (and, for this purpose, the Employer is not treated as the same employer if the Participant's compensation is paid by a different entity), the Participant's entire Account under the Plan is transferred to the MSRP 457(b) Plan;

(3) The Participant whose amounts deferred are being transferred will have an amount deferred immediately after the transfer at least equal to the amount deferred with respect to that Participant immediately before the transfer;

(4) The Participant whose amounts are being transferred is eligible to participate in the MSRP 457(b) Plan; and

(5) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.457-10(b) and such other rules and policies established by the Administrator or Vendor.

(b) A transfer to this Plan from the MSRP 457(b) Plan is permitted under the following conditions:

(1) The MSRP 457(b) Plan provides for plan-to-plan transfers;

(2) Unless the Plan and the MSRP 457(b) Plan are maintained by the same Employer (and, for this purpose, the Employer is not treated as the same employer if the Participant's compensation is paid by a different entity), the Participant's entire account under the MSRP 457(b) Plan is transferred to the Plan;

(3) The Participant whose amounts deferred are being transferred will have an amount deferred immediately after the transfer at least equal to the amount deferred with respect to that Participant immediately before the transfer;

(4) The Participant whose amounts are being transferred is eligible to participate in the Plan; and

(5) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.457-10(b) and such other rules and policies established by the Administrator or Vendor.

(c) Any amount transferred to the Plan under paragraph (b) shall be credited to the Participant's Transfer Account and shall be held, accounted for, administered and otherwise treated in the same manner as an Annual Deferral by the Participant under the Plan, except that the transferred amount shall not be considered an Annual Deferral under the Plan in determining the maximum deferral under Article V.

Section 13.02. Permissive Service Credit Transfers.

(a) If a Participant is also a participant in a tax-qualified defined benefit governmental plan (as defined in Code Section 414(d)) that provides for the acceptance of plan-to-plan transfers with respect to the Participant, then the Participant may elect to have any portion of the Participant's Account Balance transferred to the defined benefit governmental plan. A transfer under this Section may be made before the Participant has had a Severance from Employment.

(b) A transfer may be made under this Section only if the transfer is either for the purchase of permissive service credit (as defined in Code Section 415(n)(3)(A)) under the receiving defined benefit governmental plan or a repayment to which Code Section 415 does not apply by reason of Code Section 415(k)(3).

ARTICLE XIV.
PLAN ADMINISTRATION

Section 14.01. Authority of the Administrator. The Administrator shall have the authority to control and manage the operation and administration of the Plan. The Administrator shall have all power necessary or convenient to enable it to exercise its authority under the Plan. The Administrator may provide rules and regulations, not inconsistent with the provisions hereof, for the operation and management of the Plan, and may from time to time amend or rescind such rules or regulations. The Administrator is authorized to accept service of legal process for the Plan.

Section 14.02. Powers of the Administrator. The Administrator shall have the power and discretion to construe and interpret the Plan, including any ambiguities, to determine all questions of fact or law arising under the Plan, and to resolve any disputes arising under and all questions concerning administration of the Plan. The Administrator may correct any defect, supply any omission or reconcile any inconsistency in the Plan in such manner and to such extent as the Administrator may deem expedient and, subject to the Plan's claim procedures, the Administrator shall be the sole and final judge of such expediency. Benefits are payable under the Plan only if the Administrator, in its sole and absolute discretion, determines the benefits are payable under the provisions the Plan.

Section 14.03. Delegation by Administrator.

(a) The Administrator may from time to time delegate in writing to a committee or any duly authorized officer certain of its fiduciary duties or other responsibilities under the Plan. Any such committee or officer delegated fiduciary duties shall be a fiduciary until the Administrator revokes such delegation. A delegation of the Administrator's duties or responsibilities may be revoked without cause or advance notice. To the extent permitted under applicable law, such committee or officer shall have the same power and authority with respect to such delegated fiduciary or other responsibilities as the Administrator has under the Plan. The Administrator shall not be liable for any act or omission of such fiduciary in carrying out such responsibilities.

(b) The Administrator has designated the Vendors to be responsible for providing information to Participants regarding enrollment, Investment Options, and performance; processing contributions, withdrawal requests, transfers, and changes in Investment Options; providing record keeping services and such other services as provided for under agreements between the Vendors and the Administrator.

(a) The Administrator may designate one of the Vendors or another service provider to provide for the collection and coordination of information relating to Unforeseeable Emergency Distribution, in-service distributions, loans, contribution limits, and any other administrative function under the Plan.

Section 14.04. Fiduciary Insurance. Subject to State law, the Board may require the purchase of fiduciary liability insurance for any Plan fiduciary or fiduciaries to cover liability or losses occurring by reason of the act or omission of a fiduciary.

Section 14.05. Employment of Consultants. The Administrator may employ one or more persons to render advice with regard to its responsibilities under the Plan.

ARTICLE XV.
CLAIMS PROCEDURE

Section 15.01. Requests for Information Concerning Eligibility, Participation and Contributions. Requests for information concerning eligibility, participation, contributions, or any other aspects of the operation of the Plan, and service of legal process, should be in writing and directed to the Administrator of the Plan. If a written request is denied, the Administrator shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Administrator and may submit issues and comments in writing to the Administrator. The Administrator shall provide to the Participant a written decision upon such request for review of a denied claim.

Section 15.02. Requests for Information Concerning the Trust. Requests for information concerning the Trust and the terms, conditions, and interpretations thereof, claims thereunder, any requests for review of such claims, and service of legal process, should be in writing and directed to the Vendor. If a written request is denied, the Vendor shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Vendor and may submit issues and comments in writing to the Vendor. The Vendor shall provide to the Participant a written decision upon such request for review of a denied claim.

ARTICLE XVI.
AMENDMENT AND TERMINATION

Section 16.01. Amendment and Termination of Plan. The Board shall have the right, in its sole and final discretion, to amend or terminate the Plan at any time and from time to time to any extent which it may deem advisable.

Section 16.02. Restrictions on Amendments. The Plan may not be amended in a manner that violates any provision of the Code.

Section 16.03. Amendment for Eligible Plan Status. It is the intent of the Board that the Plan shall be and remain an eligible plan under the provisions of Code Section 457 and that the Trust be exempt from tax under Code Section 457. The Board may make any modifications, alterations, or amendments to the Plan necessary to obtain and retain approval of the Secretary of the Treasury or his or her delegate as may be necessary to establish and maintain the status of the Plan as an eligible plan under the Code or other federal legislation, as now in effect or hereafter enacted, and the regulations issued thereunder. Any modification, alteration, or amendment of the Plan, made in accordance with this Section, may be made retroactively, if necessary or appropriate.

Section 16.04. Distribution Upon Termination of the Plan. The Board may provide that, in connection with a termination of the Plan, all Accounts shall be distributed. For purposes of distributing all assets from the Plan in the event of a Plan termination, (i) delivery of a fully paid individual insurance annuity contract, and/or (ii) distribution of an individual custodial account in kind, shall be treated as a distribution.

ARTICLE XVII.
MISCELLANEOUS

Section 17.01. Non-Alienation.

(a) A Participant's Account under the Plan shall not be liable for any debt, liability, contract, engagement, or tort of the Participant or his or her Beneficiary, nor subject to anticipation, sale, assignment, transfer, encumbrance, pledge, charge, attachment, garnishment, execution, alienation, or any other voluntarily or involuntarily alienation or other legal or equitable process, nor transferable by operation of law.

(b) Notwithstanding paragraph (a), the Plan shall comply with any judgment, decree or order ("domestic relations order") which establishes the right of an alternate payee within the meaning of Code Section 414(p)(8) to all or a portion of a Participant's benefit under the Plan to the extent that it is a "qualified domestic relations order" ("QDRO") under Code Section 414(p). The Vendor shall establish reasonable written procedures to determine whether a domestic relations order is a QDRO and to administer the distribution of benefits with respect to such orders, which procedures may be amended from time to time, and which shall be provided to Participants upon request. Notwithstanding any other provisions in the Plan, the Plan may make an immediate distribution to the alternate payee pursuant to a QDRO.

(c) Notwithstanding paragraph (a), the Plan shall offset from the benefit otherwise payable to a Participant or his or her Beneficiary such amounts as are permitted to be offset under a court order, civil judgment, or settlement agreement in accordance with Code Section 401(a)(13)(C).

Section 17.02. Military Service.

(a) Notwithstanding any provisions of this Plan to the contrary, contributions, benefits, and service credit with respect to qualified military service shall be provided in accordance with USERRA, HEART, Code Section 414(u), and Code Section 401(a)(37). For purposes of this Section, "qualified military service" means any service in the uniformed services as defined in USERRA by any individual if such individual is entitled to reemployment rights under USERRA with respect to such service.

(b) A Participant whose employment is interrupted by qualified military service or who is on a leave of absence for qualified military service may elect to make Annual Deferrals upon resumption of employment with the Employer up to the maximum Annual Deferrals that the Participant could have elected during that period if the Participant's employment with the Employer had continued (at the same level of Compensation) without the interruption or leave, reduced by the Annual Deferrals, if any, actually made for the Participant during the period of the interruption or leave. Except to the extent provided under Code Section 414(u), this right applies for the lesser of (i) five years following the resumption of employment or (ii) a period equal to three times the period of the interruption or leave. Such Annual Deferrals by the Participant may only be made during such period and while the Participant is reemployed by the Employer.

(c) Effective January 1, 2007, to the extent provided under Code Section 401(a)(37), in the case of a Participant whose employment is interrupted by qualified military service and

who dies while performing qualified military service, the survivor of such Participant shall be entitled to any additional benefit (other than benefit accruals) provided under the Plan as if the Participant timely resumed employment in accordance with USERRA and then, on the next day, terminated employment on account of death.

(d) Effective January 1, 2009, differential wage payments within the meaning of Code Section 414(u)(12)(D) shall be treated as Compensation and Includible Compensation under the Plan.

Section 17.03. Limitation of Rights and Obligations. Neither the establishment nor maintenance of the Plan, nor any amendment thereof nor any act or omission under the Plan or resulting from the operation of the Plan shall be construed:

(a) as conferring upon any Participant, Beneficiary or any other person a right or claim against the Administrator or Employer, except to the extent that such right or claim shall be specifically expressed and provided in the Plan;

(b) as creating any responsibility or liability of the Board, the Employer, or the Administrator for the validity or effect of the Plan;

(c) as a contract or agreement between the Board, the Employer, or the Administrator and any Participant or other person;

(d) as an agreement, consideration, or inducement of employment or as effecting in any manner or to any extent whatsoever the rights or obligations of the Employer or any Employee to continue or terminate the employment relationship at any time, except as otherwise provided under any applicable collective bargaining agreement; or

(e) as giving any Participant the right to be retained in the service of the Employer or to interfere with the right of the Employer to discharge any Participant or other person at any time; provided, however, that the foregoing will not be deemed to modify the provisions of any collective bargaining agreements which may have been entered into by the Employer with the bargaining representatives of any Participant.

Section 17.04. Federal and State Taxes. It is intended that Contributions other than Roth Contributions under this Plan, plus any earnings thereunder, are excludable from gross income for federal and state income tax purposes until paid to Participants or Beneficiaries, and that Roth Contributions and earnings thereunder are excludable from gross income for federal and state income tax purposes when paid to Participants or Beneficiaries to the extent that they are Qualified Distributions. However, the Administrator does not guarantee that any particular federal or state income, payroll, or other tax consequence will occur as a result of participation in this Plan.

Section 17.05. Erroneous Payments. If the Administrator or Vendor makes any payment that, according to the terms of the Plan and the benefits provided hereunder, should not have been made, the Administrator or Vendor may recover that incorrect payment, by whatever means necessary, whether or not it was made due to the error of the Administrator or Vendor, from the person to whom it was made, or from any other appropriate party. For example, if any such incorrect payment is made directly to a Participant, the Administrator or Vendor may deduct it when making any future payments directly to that Participant.

Section 17.06. Benefit Payment Issue Resolution. The Administrator, or its designee, if in doubt regarding the correctness of its action with respect to a benefit payment, may direct suspension of payment until satisfied as to the correctness of the payment or the person to receive the payment. Alternatively, the Administrator, or its designee, may file, in any state court of competent jurisdiction, a suit, in the form it deems appropriate, for legal determination of the benefits to be paid and the persons to receive them. The Administrator, or its designee, may also bring a suit, or take other action as it deems appropriate, to resolve questions involving investment directions. The Administrator shall comply with the final order of the court in any such suit, and Participants and the Administrator shall be bound by such an order, insofar as it affects the benefits payable under this Plan, or the method or manner of payment.

Section 17.07. Release. Any payments to any Participant shall, to the extent thereof, be in full satisfaction of the claim of such Participant being paid thereby and the Trustees or Administrator may condition payment thereof on the delivery by the Participant of the duly executed receipt and release in such form as may be determined by the Trustees or Administrator.

Section 17.08. Liability. The Administrator shall not incur any liability in acting upon any notice, request, signed letter, telegram or other paper or document or electronic transmission believed by the Administrator to be genuine or to be executed or sent by an authorized person.

Section 17.09. Information Provided by the Participant. Each Participant should provide to the Administrator at the time of initial enrollment, and later if there are any changes, any information necessary or advisable for the Administrator to administer the Plan.

Section 17.10. Family Medical Leave Act. Notwithstanding any provisions of this Plan to the contrary, Contributions and benefits with respect to qualified leave will be provided in accordance with the Family Medical Leave Act of 1993, 29 U.S.C. Section 2601 et. seq.

Section 17.11. Payments to Minors or Incompetents. If a Participant or Beneficiary entitled to receive any benefits hereunder is a minor or is determined to be legally incapable of giving valid receipt and discharge for such benefits by a court or by the Administrator, benefits shall be paid to such person as the Administrator may designate for the benefit of such Participant or Beneficiary. Such payments shall be considered a payment to the Participant or Beneficiary and shall, to the extent made, be deemed a complete discharge of any liability for such payments under the Plan.

Section 17.12. Missing or Lost Participants. In the event that the Administrator does not have current contact information for or is unable to identify a Participant or Beneficiary under the Plan, the Administrator shall make reasonable attempts to determine the address and identity of the Participant or Beneficiary entitled to benefits under the Plan. A reasonable attempt to locate a missing or lost Participant or Beneficiary shall include (i) providing notice to the Participant at the Participant's last known address via certified mail; (ii) determining whether the Employer's records or the records of another plan maintained by the Employer has a more current address for the Participant; (iii) attempting to contact any named Beneficiary of the Participant; and (iv) searching for the missing Participant via free electronic search tools, such as Internet search engines, public record databases, obituaries, and social media. If such search methods are unsuccessful, based on the facts and circumstances, the Administrator may use other search methods, including using Internet search tools, commercial locator services, credit

reporting agencies, information brokers, investigation databases, and analogous services that may involve charges. The Administrator may charge missing Participants and Beneficiaries reasonable expenses for efforts to find them.

Section 17.13. Indemnification. The Employer shall satisfy any liability actually and reasonably incurred by any members of the Board or any person to whom any power, authority or responsibility of the Administrator is delegated pursuant to Section 14.03, except a Vendor or other service provider. These liabilities include expenses, attorney's fees, judgments, fines, and amounts paid in connection with any threatened, pending or completed action, suit or proceeding related to the exercise (or failure to exercise) of this authority. This is in addition to whatever rights of indemnification exist under the regulations or by-laws of the Employer, under any provision of law, or under any other agreement; provided, however, that the Employer will not satisfy any such liability to the extent that the person did not act in good faith.

Section 17.14. No Reversion. Under no circumstances or conditions will any Contributions revert to, be paid to, or inure to the benefit of, directly or indirectly, the Employer, but shall be held for the exclusive purpose of providing benefits to Participants and their Beneficiaries and defraying the reasonable expenses of administering the Plan. However, if Contributions are made by the Employer by a good faith mistake of fact, such amount may be returned to the Employer within one year of the date that they were made to the Plan.

Section 17.15. Finality of Determination. All determinations with respect to crediting of service under the Plan are made on the basis of the records of the Employer, and all determinations made are final and conclusive upon Employees, former Employees, and all other persons claiming a benefit under the Plan.

Section 17.16. Counterparts. The Plan may be executed in any number of counterparts, each of which shall be deemed to be an original. All counterparts shall constitute but one and the same instrument and shall be evidenced by any one counterpart.

IN WITNESS WHEREOF, the Board has caused this amended and restated Plan to be executed by its duly authorized representative as of the date written below, but effective as of January 1, 2024.

**UNIVERSITY SYSTEM OF MARYLAND
BOARD OF REGENTS**

Signature

Printed

Title

Date

UNIVERSITY SYSTEM OF MARYLAND
DEFERRED COMPENSATION PLAN AND TRUST

APPENDIX A
APPROVED VENDORS

The current selection of Vendor(s) is not intended to limit future additions or deletions of Vendor(s). The Administrator from time to time may add or delete Vendor(s) which shall be effective on the date adopted by the Administrator and shall be reflected in a revised Appendix A.

1.1 **Approved Vendors**

The Board has approved the following Vendors under the Plan, which remain approved as of January 1, 2024:

- TIAA
- Fidelity Investments

1.2 **Former Vendors**

As of January 1, 2008, AIG VALIC is a Former Vendor under the Plan.

**UNIVERSITY SYSTEM OF MARYLAND
SUPPLEMENTAL 403(b) RETIREMENT PLAN**

Amended and Restated Effective ~~as of~~ January 1, ~~2020~~**2024**

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**UNIVERSITY SYSTEM OF MARYLAND
SUPPLEMENTAL 403(b) RETIREMENT PLAN**

**ARTICLE I.
ESTABLISHMENT AND RESTATEMENT OF PLAN**

Section 1.01. Plan Establishment and History.

(a) The University System of Maryland is a public university system established under Maryland law and an educational organization described in Section 170(b)(1)(A)(ii) of the Internal Revenue Code of 1986, as amended ("Code"). The Board of Regents of the University System of Maryland ("Board") established the University System of Maryland Supplemental 403(b) Retirement Plan ("Plan") pursuant to Code Section 403(b) and Sections 30-210 et seq. of the State Personnel and Pensions Article of the Annotated Code of Maryland (1978, 2004 Repl. Vol.), to provide eligible employees the opportunity to supplement their retirement benefits through voluntary contributions.

(b) The Plan is, and is intended to remain, a defined contribution plan under Code Section 403(b). The Plan is a governmental plan within the meaning of Code Section 414(d) and Section 3(32) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). As a governmental plan, ERISA does not apply.

(c) The Plan was most recently amended and restated effective ~~June 17~~January 1, 2011~~2020~~.

Section 1.02. Plan Restatement.

(a) The Plan is now being amended and restated effective January 1, ~~2020~~2024, except as otherwise specifically provided herein, to ~~incorporate the prior amendments to the Plan and to~~ make certain required and discretionary changes.

(b) Except as otherwise specifically provided herein, the Plan as hereinafter set forth establishes the rights and obligations with respect to individuals who are Employees on and after January 1, ~~2020~~2024, and to transactions under the Plan on and after January 1, ~~2020~~2024. The rights and benefits, if any, of individuals who are not Employees on or after January 1, ~~2020~~2024, shall be determined in accordance with the terms and provisions of the Plan that were in effect on the date of their Severance from Employment, except as otherwise specifically provided herein or in a subsequent amendment.

Section 1.03. Plan Funding. The Plan is funded exclusively through the purchase of Investment Arrangements in accordance with the requirements of the Code. The terms and conditions of the Investment Arrangements shall be incorporated into this Plan; provided, however, that to the extent that there is any conflict between the terms of the Investment Arrangements and the terms of the Plan, the terms of the Plan shall govern, except as otherwise specifically provided herein.

ARTICLE II.
RULES OF CONSTRUCTION AND DEFINITIONS

Section 2.01. Rules of Construction and Governing Law.

(a) This Plan shall be interpreted, enforced, and administered in accordance with the Code and, when not inconsistent with the Code, or expressly provided otherwise herein, the laws of the State of Maryland without regard to conflict of law principles.

(b) Words used herein in the masculine gender shall be construed to include the feminine gender where appropriate, and *vice versa*, and words used herein in the singular or plural shall be construed as being in the plural or singular, where appropriate, and *vice versa*.

(c) The headings and subheadings in the Plan are inserted for convenience of reference only and are not to be considered in the construction of any provision of the Plan.

(d) If any provision of the Plan shall be held to violate the Code or be illegal or invalid for any other reason, that provision shall be deemed to be null and void, but the invalidation of that provision shall not otherwise impair or affect the Plan.

(e) In resolving any conflict between provisions of the Plan and in resolving any other uncertainty as to the meaning or intention of any provision of the Plan, the interpretation that causes the Plan to (i) constitute a defined contribution plan under the provisions of Code Section 403(b), (ii) be a governmental plan as defined in ERISA Section 3(32) and Code Section 414(d), and (iii) comply with all applicable requirements of the Code, shall prevail over any different interpretation.

Section 2.02. Definitions. When the initial letter of a word or phrase is capitalized herein, the meaning of such word or phrase shall be as follows:

(a) "Account" means the separate accounts maintained for each Participant and Beneficiary under the Plan. The following Accounts shall be established for a Participant or Beneficiary, if applicable:

(1) A Pre-Tax Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Pre-Tax Contributions pursuant to Section 4.01. Such Account may be further divided into a ~~Pre~~pre-1987 Pre-Tax Contribution Account reflecting Pre-Tax Contributions made to the Plan prior to 1987 and a ~~Post~~post-1986 Pre-Tax Contribution Account reflecting Pre-Tax Contributions made to the Plan after 1986, including any earnings on the Pre-1987 Pre-Tax Contributions.

(2) A Roth Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Roth Contributions pursuant to Section 4.01.

(3) ~~"A Post-Severance Employer Contribution Account" means the account maintained~~ to reflect the Participant's or Beneficiary's interest under the Plan attributable to ~~his or her~~ Post-Severance Employer Contributions, if any, pursuant to Section 4.02.

(4) A Rollover Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Rollover Contributions pursuant to Section 4.03.

(5) A Transfer Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to plan-to-plan transfers pursuant to Section 12.01.

(b) "Administrator" means the Administrative Committee as designated by the Board, or such other person, persons, or entity designated by the Board, to perform the administrative duties and functions under the Plan.

(c) "Allocable Income" means the sum of the allocable gain or loss for the year or partial year determined in accordance with Code Section 402(g) and the regulations promulgated thereunder.

(d) "Annual Addition" means annual addition as defined in Code Section 415(c) and as modified in Code Sections 415(l)(1) and 419A(d)(2). In general, Code Section 415(c) defines annual addition as the sum of the following amounts credited to a Participant's Account for the Limitation Year under this Plan and to a Participant's account under any other Code Section 401(a) defined contribution plan maintained by the Employer (or, if required by Code Section 415 and the regulations thereunder, to any other defined contribution plan):

(1) employee contributions;

(2) employer contributions;

(3) forfeitures;

(4) allocations under a simplified employee pension;

(5) amounts allocated to an individual medical account, as defined in Code Section 415(l)(2), which is part of a pension or annuity plan maintained by the ~~University~~Employer or a Related Employer, or both, as applicable; and

(6) mandatory employee contributions to a defined benefit plan maintained by the ~~University~~Employer, unless the contributions are picked up by the ~~University~~Employer pursuant to Code Section 414(h)(2).

Annual Additions shall not include (i) elective deferrals made by a Participant who is age 50 or older in accordance with Code Section 414(v), (ii) excess elective deferrals distributed in accordance with Treasury Regulation Section 1.402(g)-1(e)(2), (iii) rollover contributions, or (iv) transfer contributions.

(e) "Annuity Contract" means a nontransferable contract as defined in Code Sections 403(b)(1) and 401(g), established for Participants by the Employer, or by each Participant individually, that is issued by a Vendor who is an insurance company qualified to issue annuities in a ~~State~~state and that includes payment in the form of an annuity.

(f) "Applicable Form" means the appropriate form as designated and furnished by the Administrator or Vendor to make an election or provide a notice as required by the Plan. If a written election or consent is not specifically required by the Code, the Administrator or Vendor may prescribe a verbal, electronic, or telephonic ~~instruction~~form in lieu of or in addition to a written form.

(g) "Beneficiary" means the person, company, trustee, or estate designated by the Participant on the Applicable Form to receive any benefits payable under the Plan in the event of the Participant's death. ~~A~~Except as required by applicable state law, (i) a designation of an individual as a Beneficiary shall remain in effect until affirmatively revoked by the Participant on a subsequent Applicable Form.~~—Unless and (ii), unless~~ otherwise provided in the applicable Investment Arrangement, if ~~the~~no designated Beneficiary ~~does not survive~~survives the Participant or there is no Beneficiary designated, the Participant's surviving Spouse shall be the Beneficiary or, if ~~none~~there is no surviving Spouse, the Participant's estate shall be the Beneficiary. Beneficiary also means an alternate payee within the meaning of Code Section 414(p)(8).

(h) "Board" means the Board of Regents of the University System of Maryland.

(i) "Code" means the Internal Revenue Code of 1986, as amended from time to time.

(j) "Compensation" means all cash compensation for services to the Employer, including salary, wages, fees, commissions, bonuses, and overtime pay, which is includible in the Employee's gross income for the calendar year, plus amounts that would be cash compensation for services to the Employer includible in the Employee's gross income for the calendar year but for a compensation reduction election under Code Section 125, 132(f), 401(k), 403(b), or 457(b) (including an election to reduce compensation in order to make Elective Deferrals under the Plan). Compensation does not include amounts "picked up" by the Employer within the meaning of Code Section 414(h). Compensation includes any compensation described in ~~paragraphs~~paragraph (1) or (2), provided it is paid by the later of 2½ months after the Employee's Severance from Employment with the Employer or the end of the calendar year in which the Employee has a Severance from Employment with the Employer:

(1) any payment that would have been paid to the Employee prior to a Severance from Employment if the Employee continued in employment with the Employer and that is regular compensation for services during the Employee's regular working hours, compensation for services outside the Employee's regular working hours (such as overtime or shift differential), commissions, bonuses, or other similar payments; and

(2) a payment for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if employment had continued and the payment would be Compensation if paid prior to the Employee's Severance from Employment, and only if the Employee separately elects for such payment to be reduced on his or her Salary Reduction Agreement pursuant to Section 4.01.

Notwithstanding the above, to the extent applicable, Compensation shall not exceed the limits under Code Section 401(a)(17), as increased for the Cost of Living Adjustment for the Plan Year. Any payment that is not described in paragraph (1) or (2) above is not considered Compensation

if paid after Severance from Employment. Thus, for example, Compensation does not include amounts paid after Severance from Employment that are severance pay or unfunded nonqualified deferred compensation.

(k) "Contributions" mean Pre-Tax Contributions, Roth Contributions, Post-Severance Employer Contributions, ~~and~~ Rollover Contributions, and plan-to-plan transfers.

(l) "Coronavirus-Related Distribution" means a distribution made on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before December 31, 2020, to a Qualified Individual in accordance with Section 8.04.

(m) ~~(+)~~ "Cost of Living Adjustment" means the cost of living adjustment prescribed by the Secretary of the Treasury under Code Section 401(a)(17), 402(g), 414(v), or 415(d) for any applicable year.

(n) ~~(+)~~ "Custodial Account" means the group or individual custodial account or accounts, as defined in Code Section 403(b)(7), established by the Administrator, or by each Participant individually, with a Vendor to hold assets of the Plan.

(o) "Designated Beneficiary" means an individual Beneficiary within the meaning of Code Section 401(a)(9)(E)(i).

(p) ~~(+)~~ "Disabled" ~~or "Disability"~~ means ~~disability~~ disabled within the meaning of Code Section 72(m)(7).

(q) ~~(+)~~ "Elective Deferral" means Pre-Tax Contributions, Roth Contributions, and any other elective deferral as defined by Code Section 402(g)(3).

(r) "Eligible Designated Beneficiary" means a Designated Beneficiary who meets the additional criteria under Code Section 401(a)(9)(E)(ii).

(s) ~~(+)~~ "Employee" means a common law employee of the Employer, other than non-resident aliens with no U.S. source income or students performing services described in Code Section 3121(b)(10). Employee shall not include an employee unless his or her Compensation for performing services is paid by the Employer.

(t) ~~(+)~~ "Employer" means one of the following Public Schools:

- (1) the University System of Maryland Office;
- (2) Bowie State University;
- (3) Coppin State University;
- (4) Frostburg State University;
- (5) Salisbury University;
- (6) Towson University;

- (7) University of Baltimore;
- (8) University of Maryland, Baltimore;
- (9) University of Maryland, Baltimore County;
- (10) University of Maryland, College Park;
- (11) University of Maryland, Eastern Shore;
- (12) University of Maryland University College;
- (13) University of Maryland Biotechnology Institute;
- (14) University System of Maryland Center for Environmental Science; and
- (15) any other center, component, or institute established and operated by the University System of Maryland in accordance with its mission pursuant to Section 12-101 of the Annotated Code of Maryland (1978, 2006 Repl. Vol.).

(u) ~~(+)~~ "Excess Annual Additions" mean, except as provided in Code Section 414(v), that portion of a Participant's Contributions to the Plan and contributions to another qualified defined contribution plan sponsored by the Employer (or, if required by Code Section 415 and the regulations thereunder, to any other defined contribution plan) for a Limitation Year which exceeds the limits of Code Section 415.

(v) ~~(+)~~ "Excess Elective Deferrals" mean, except as provided in Code Section 414(v), that portion of a Participant's Pre-Tax Contributions and/or Roth Contributions to the Plan and Elective Deferrals to any other 403(b) or 401(k) plan maintained by the Employer or a Related Employer for a Plan Year which exceeds the limits of Code Section 402(g).

(w) "Financial Hardship Distribution" means a distribution made in accordance with Section 8.03 to a Participant on account of an immediate and heavy financial need.

(x) ~~(+)~~ "Former Vendor" means a service provider that was an approved Vendor under the Plan, but that ceases to be an approved Vendor under the Plan, that continues to hold Plan assets. Notwithstanding the preceding, a Former Vendor shall not include a service provider that ceased to be eligible to receive contributions under the Plan prior to January 1, 2005.

(y) ~~(+)~~ "HEART" means the Heroes Earnings Assistance and Relief Tax Act of 2008, as amended from time to time.

(z) ~~(+)~~ "Includible Compensation" means all compensation received by an Employee from the Employer that is includible in his or her gross income for federal income tax purposes (computed without regard to Code Section 911) for the most recent period that is a Year of Service which precedes the taxable year by no more than five years within the meaning of Code Section 403(b)(3). Includible Compensation also includes any amounts excludable from taxable income because of an election (including Elective Deferrals under the Plan) under Code Sections

403(b), 457(b), 125, 401(k), or 132(f). Includible Compensation includes compensation paid by 2½ months after the later of an Employee's Severance from Employment or the end of the ~~Plan~~Limitation Year that includes the date of the Employee's Severance from Employment, if:

(1) the payment is regular compensation for services during the Employee's regular working hours, or compensation for services outside the Employee's regular working hours (e.g., overtime or shift differential), commissions, bonuses, or other similar payments and the payment would have been paid to the Employee prior to a Severance from Employment if the Employee had continued in employment with the Employer; ~~and~~

(2) the payment is for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if the Employee had continued in employment; ~~or~~

(3) the payment is made to the Employee under a nonqualified unfunded deferred compensation plan, but only if the payment would have been paid to the Employee at the same time if the Employee had continued in employment with the Employer and only to the extent that the payment is includible in the Employee's gross income.

Includible Compensation does not include any amounts "picked up" by the Employer within the meaning of Code Section 414(h). Includible Compensation is determined without regard to any community property laws. To the extent applicable, Includible Compensation shall not exceed the limits under Code Section 401(a)(17), ~~as~~ increased for the Cost of Living Adjustment in effect for the Plan Year.

(aa) ~~(w)~~ "Investment Arrangement" means an Annuity Contract or Custodial Account that satisfies the requirements of Treasury Regulation Section 1.403(b)-3 and that is issued or established for funding amounts held under the Plan and specifically approved by the Administrator for use under the Plan.

(bb) ~~(x)~~ "Investment Options" mean the investment funds available under the Investment Arrangements provided by the Vendor(s) and specifically approved by the Administrator, in its sole and absolute discretion, for use under this Plan.

(cc) ~~(y)~~ "Limitation Year" means the Plan Year; provided, however, that if the Participant is in control of an employer within the meaning of Treasury Regulation Section 1.415(a)-1(f), the Limitation Year is the limitation year of that employer.

(dd) ~~(z)~~ "Participant" means any Employee who is or may become eligible to receive a benefit of any type under the Plan. A Participant shall also mean, when appropriate to the context, a former Employee who is eligible to receive a benefit of any type under the Plan.

(ee) ~~(aa)~~ "Plan" means the University System of Maryland Supplemental 403(b) Retirement Plan, as amended from time to time.

(ff) ~~(bb)~~ "Plan Year" means the calendar year.

(gg) ~~(ee)~~ "Post-Severance Employer Contribution" means Employer contributions made to the Plan on behalf of a Participant in connection with the Participant's Severance from Employment as determined in the sole and absolute discretion of the Board or its delegate pursuant to Section 4.02.

(hh) ~~(dd)~~ "Pre-Tax Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a Salary Reduction Agreement in accordance with Section 4.01.

(ii) ~~(ee)~~ "Public School" means a ~~state~~State sponsored educational organization described in Code Section 170(b)(1)(A)(ii).

(jj) ~~(ff)~~ "Qualified Distribution" means a distribution from a Roth Contribution Account after the Participant has satisfied a five year ~~tax~~-holding period and has attained age 59½, died, or become Disabled, in accordance with Code Section 402A(d). The five year ~~tax~~-holding period is the period of five consecutive taxable years that begins with the first day of the first taxable year in which the Participant makes a designated Roth Contribution under the Plan or to another retirement plan which amount was directly rolled over to the Plan, and ends when five consecutive taxable years have been completed.

(kk) "Qualified Individual" means a Participant:

(1) who is diagnosed with the virus SARS-CoV-2 or with coronavirus disease 2019 (COVID-19) by a test approved by the Centers for Disease Control and Prevention;

(2) whose Spouse or dependent (as defined in Code Section 152) is diagnosed with such virus or disease by such a test; or

(3) who experiences adverse financial consequences as a result of:

(i) the Participant, the Participant's Spouse, or a member of the Participant's household (i) being quarantined, (ii) being furloughed or laid off or having work hours reduced due to such virus or disease, (iii) being unable to work due to lack of child care due to such virus or disease, (iv) having a reduction in pay (or self-employment income) due to such virus or disease, or (v) having a job offer rescinded or start date for a job delayed due to such virus or disease;

(ii) closing or reducing hours of a business owned or operated by the Participant, the Participant's Spouse, or a member of the Participant's household due to such virus or disease; or

(iii) other factors as determined by the Secretary of the Treasury (or the Secretary's delegate).

For purposes of this paragraph (kk), a member of the Participant's household means someone who shares the Participant's principal residence.

(ll) ~~(gg)~~ "Related Employer" means any entity which is under common control with the Employer under Code Section 414(b), (c), (m), or (o). The Employer shall determine which entities are Related Employers based on a reasonable, good faith standard and taking into account the special rules applicable under IRS Notice 89-23, 1989-1 C.B. 654.

(mm) ~~(hh)~~ "Rollover Contribution" means an amount contributed to the Plan pursuant to Section 4.03.

(nn) ~~(ii)~~ "Roth Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a Salary Reduction Agreement in accordance with Section 4.01, where the contribution has been (i) designated irrevocably by the Participant as a Roth Contribution being made in lieu of all or a portion of the Pre-Tax Contribution the Participant is otherwise eligible to make under the Plan, and (ii) treated by the Employer as includible in the Participant's gross income at the time the Participant would have received that amount in cash if the Participant had not made such an election. ~~Roth Contributions shall be available under the Plan as soon as administratively practicable on or after January 1, 2020.~~

(oo) ~~(jj)~~ "Salary Reduction Agreement" means an agreement entered into between an Employee and the Employer pursuant to Section 4.01, which may be in electronic or written form. Such agreement shall not be effective with respect to Compensation made available prior to the effective date of such agreement and shall be binding on the parties and irrevocable with respect to Compensation earned while it is in effect.

(pp) ~~(kk)~~ "Section" means, when not preceded by the word Code or ERISA, a section of the Plan.

(qq) ~~(ll)~~ "Severance from Employment" means the complete termination of the employment relationship between the Employee and the Employer and any Related Employer. However, a Severance from Employment also occurs on any date on which an Employee ceases to be an employee of an Employer or a Related Employer that is a Public School, even though the Employee may continue to be employed by a Related Employer that is another unit of the State or local government that is not a Public School or in a capacity that is not employment with a Public School (*e.g.*, ceasing to be an employee performing services for a Public School but continuing to work for the same State or local government employer).

(rr) ~~(mm)~~ "Spouse" means the person to whom ~~an Eligible Employee is legally a~~ Participant is married under ~~the federal~~ the federal law ~~of any state~~.

(ss) "State" means the State of Maryland acting through the Employer which has offered this Plan to its Employees.

(tt) ~~(nn)~~ "USERRA" means the Uniformed Services Employment and Reemployment Rights Act of 1994, as amended from time to time.

(uu) ~~(oo)~~ "Vendor" means the service provider that has been approved by the Administrator to serve as third party administrator and/or recordkeeper for the Plan and/or to offer Investment Options to Participants under the Plan. The Vendor(s) are listed in Appendix A, as

modified from time to time in the Administrator's sole and absolute discretion. A modification of Appendix A is not an amendment of the Plan.

(vv) ~~(pp)~~ "Vest" or "Vested" means the interest of the Participant or Beneficiary in his or her Account that is unconditional, legally enforceable, and nonforfeitable.

(ww) ~~(qq)~~ "Year of Service" means each year during which the Employee is a full-time Employee of the Employer for the entire work period, and a fraction of a year for each part of a work period during which the Employee is a full-time or part-time Employee of the Employer, determined in accordance with the rules under Treasury Regulation Section 1.403(b)-4(e).

ARTICLE III. **PARTICIPATION**

Section 3.01. **Participation.** An Employee may become a Participant in the Plan ~~for purposes of Elective Deferrals or Rollover Contributions~~ immediately after commencement of employment with the Employer. Participation in the Plan is voluntary.

Section 3.02. **Notice and Enrollment.**

(a) The Employer shall notify an Employee when he or she is eligible to participate in the Plan for purposes of Elective Deferrals.

(b) An Employee must complete the enrollment process and make investment elections with the Vendor on the Applicable Form, including a Salary Reduction Agreement for purposes of Elective Deferrals, to become a Participant in the Plan. An Employee who fails to complete the enrollment process and make investment elections with the Vendor on the Applicable Form shall be deemed to have waived all of his or her rights under the Plan, provided that such Employee may become a Participant in the Plan at any time thereafter by completing the enrollment process and making investment elections with the Vendor on the Applicable Form.

Section 3.03. **Cessation of Contributions.** A Participant shall cease to be eligible for ~~Elective Deferrals~~Contributions under the Plan when he or she is no longer an Employee.

Section 3.04. **Cessation of Participation.** A Participant shall cease to be a Participant on the distribution of his or her entire interest in the Plan.

Section 3.05. **Reemployment.** A former Participant who is reemployed by the Employer shall immediately become a Participant in this Plan as of his or her date of rehire as an Employee.

ARTICLE IV. **CONTRIBUTIONS**

Section 4.01. **Elective Deferrals.**

(a) Subject to the limitations under Article V, an Employee who has satisfied the participation requirements under ~~Section 3.01~~Section 3.01 may enter into a written Salary

Reduction Agreement with the Employer agreeing to contribute each pay period Pre-Tax Contributions and/or Roth Contributions to the Plan ~~in any flat dollar amount.~~

(b) Pre-Tax Contributions and Roth Contributions shall begin as soon as administratively practicable following the date specified in the Salary Reduction Agreement, or, if later or if no date is specified, as soon as administratively practicable after the Salary Reduction Agreement is filed with the Administrator or the Vendor, as applicable.

(c) Pre-Tax Contributions and/or Roth Contributions shall reduce the Compensation otherwise payable to a Participant and shall be paid in cash to the Vendor by the Employer, on a basis consistent with its payroll practices, as soon as administratively feasible after being withheld from the Compensation of a Participant, but no later than 15 business days following the end of the month in which such amount is withheld from the Compensation of the Participant.

(d) If the Participant fails to designate whether Elective Deferrals are Pre-Tax Contributions or Roth Contributions, the Participant will be deemed to have designated his or her Elective Deferrals as Pre-Tax Contributions. Pre-Tax Contributions shall be allocated to the Pre-Tax Contribution Account of the Participant as of the date of contribution. Roth Contributions shall be allocated to the Roth Contribution Account of the Participant as of the date of contribution.

(e) A Salary Reduction Agreement shall remain in effect until superseded by another election or until the Administrator requires a Participant to complete a new Salary Reduction Agreement on a uniform and nondiscriminatory basis.

(1) A Participant may change his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing a new Salary Reduction Agreement with the Administrator or the Vendor, as applicable. Any such changes shall be effective as soon as administratively practicable following the date specified in the new Salary Reduction Agreement, or, if later, as soon as administratively practicable after the Salary Reduction Agreement is filed.

(2) A Participant may terminate his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing the Applicable Form with the Administrator or the Vendor, as applicable, which shall be effective as soon as administratively practicable after the Applicable Form is filed.

(f) An election to make Pre-Tax Contributions and/or Roth Contributions shall not be valid with respect to any period during which the Participant is not an Employee. No election to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions shall be given retroactive effect.

(g) The Administrator may establish additional nondiscriminatory rules and procedures governing the manner and timing of elections by Participants to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions.

Section 4.02. Post-Severance Employer Contributions. The Employer may make Post-Severance Employer Contributions to the Plan in an amount and for such Employee or Employees as determined by the Board or its delegate in its sole and absolute discretion each Plan

Year. Post-Severance Employer Contributions shall be allocated to the Post-Severance Employer Contribution Account of the Participant as of the date of the contribution, and shall be made in accordance with Code Section 403(b)(3) and Treasury Regulation Section 1.403(b)-4(d).

Section 4.03. Rollover Contributions to the Plan.

(a) Subject to the Investment Arrangements, Participants (prior to January 1, 2025, Participants) who are Employees only may transfer to the Plan as a Rollover Contribution a distribution from a Code Section 401(a) (including 401(k)) or 403(a) qualified plan (excluding after-tax contributions), a Code Section 403(b) plan (excluding after-tax contributions), a Code Section 408 individual retirement account or annuity, a SIMPLE IRA described in Code Section 408(p)(1) provided that the Rollover Contribution is made after the two year period described in Code Section 72(t)(6), or a Code Section 457(b) eligible deferred compensation plan which is maintained by an eligible employer described in Code Section 457(e)(1)(A). Any Rollover Contribution (i) shall be subject to the Vendor's determination, in its discretion, that the Rollover Contribution satisfies all applicable requirements of the Code and (ii) shall be made directly from such prior plan, or if such amount was distributed to the Participant, such Rollover Contribution shall be made within 60 days after the Participant receives the rollover amount, unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance.

(b) The Plan shall accept a Rollover Contribution ~~to a Roth Contribution Account~~ only if it is a direct rollover from ~~another~~ a designated Roth ~~elective deferral~~ account under an applicable retirement plan described in Code Section 402A(e)(1) and only to the extent the rollover is permitted under the rules of Code Section 402(c). A Rollover Contribution that includes a designated Roth account shall only be accepted if the Administrator obtains information regarding the Participant's tax basis under Code Section 72 in the amount rolled over and the first day of the Participant's taxable year in which the Participant first had Roth contributions made to such other designated Roth account.

(c) A Rollover Contribution shall be allocated to the Rollover Contribution Account of the Participant as of the date of the contribution. A Rollover Contribution from a designated Roth account shall be allocated to a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions as of the date of the contribution. Before a Rollover Contribution is made, the Participant shall designate on the Applicable Form the Investment Options in which the Vendor should invest the Participant's Rollover Contribution.

Section 4.04. In-Plan Roth Rollovers.

(a) Any portion or all of a Participant's Vested Account (other than a Roth Contribution Account or a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon) is eligible for direct rollover to the Participant's Roth Contribution Account under the Plan, even if the Vested Account is not otherwise distributable (pursuant to Code Section 402A(c)(4)(E)) under Article VIII of the Plan, and the transfer shall be treated as a qualified rollover contribution (within the meaning of Code Section 408A(e)) to the Participant's Roth Contribution Account.

(b) A Participant's election under this Section 4.04 shall be subject to the reasonable administrative procedures established by the Administrator, Code Section 402A(c)(4) and the regulations thereunder, and subsequent guidance from the Internal Revenue Service.

(c) The taxable portion of the Participant's Account directly rolled over to a Roth Contribution Account under this Section 4.04 shall be included in the Participant's gross income in the tax year in which the transfer occurs.

(d) To the extent required by Code Section 402(f), the Administrator shall provide written information regarding in-Plan Roth rollovers under this Section 4.04, for amounts that are otherwise distributable under Article VIII.

Section 4.05. Leave of Absence. During a paid leave of absence, Pre-Tax Contributions and/or Roth Contributions shall continue to be made for a Participant on the basis of Compensation paid by the Employer during the leave. No Contributions shall be made during an unpaid leave of absence.

Section 4.06. Plan Expenses of Plan. All reasonable expenses of administering the Plan shall be charged against and paid from the Participant's Accounts, subject to the terms of the applicable Investment Arrangements, unless paid by the Employer. The Administrator shall have the right to allocate expenses associated with maintaining the Accounts of terminated Employees to such Accounts, even if no expenses are allocated to the Accounts of active Employees, in accordance with rules promulgated by the Internal Revenue Service.

ARTICLE V. **LIMITATIONS ON CONTRIBUTIONS**

Section 5.01. Elective Deferral Limits.

(a) The maximum amount of Elective Deferrals to the Plan for any calendar year shall be limited to the applicable dollar amount as provided in Code Section 402(g)(B)(1). ~~The applicable dollar amount is \$19,500 for 2020,~~ increased ~~thereafter~~ by the Cost of Living Adjustment in effect for such calendar year.

(b) A Participant who ~~attains~~will attain age 50 or more by the end of the calendar year, and who is contributing up to the applicable dollar amount under paragraph (a), may make additional Elective Deferrals up to the applicable dollar amount under Code Section 414(v) ~~of up to \$6,500 for 2020,~~ as increased ~~thereafter~~ by the Cost of Living Adjustment. in effect for such calendar year. Effective January 1, 2025, the adjusted dollar amount under Code Section 414(v)(2)(E), as increased by the Cost of Living Adjustment in effect for such calendar year, shall apply to Participants who will attain age 60 but will not attain age 64 by the end of the calendar year.

(c) The special catch-up under Code Section 402(g)(7) shall not apply.

Section 5.02. Excess Elective Deferrals. Excess Elective Deferrals resulting from Elective Deferrals made on behalf of the Participant to this Plan and to any other 403(b) or 401(k) plan maintained by the Employer or a Related Employer (or, to the extent timely requested by the

Participant, to any other 403(b) or 401(k) plan maintained by any other employer) shall be distributed along with Allocable Income to the Participant no later than the April 15th following the calendar year in which the Excess Elective Deferral was made. Such distributions shall be made in accordance with the rules under Code Section 402(g) and the regulations thereunder.

Section 5.03. Code Section 415 Limits.

(a) Notwithstanding any provision of the Plan to the contrary, Annual Additions to the Plan and any other Code Section 403(b) plan maintained by the Employer or a Related Employer (or, if required by Code Section 415 and the regulations thereunder, to any other defined contribution plan) for a Participant in a Limitation Year shall not exceed the limitations set forth in Code Section 415(c), except to the extent permitted under Code Section 414(v).

(b) The Code Section 415(c) limit for any Limitation Year is the lesser of:

- (1) ~~\$57,000 for 2020~~The dollar amount under Code Section 415(c)(1)(A), increased thereafter by the Cost of Living Adjustment in effect for such calendar year; or
- (2) 100% of the Participant's Includible Compensation.

Section 5.04. Excess Annual Additions.

(a) If as of the end of the Plan Year, the Annual Additions allocated to any Participant's Account exceed the limitations of this Article V, the Excess Annual Additions ~~will~~shall be corrected as permitted under the Employee Plans Compliance Resolution System (or similar Internal Revenue Service correction program).

(b) In any Plan Year, ~~in the event Contributions would exceed the Code Section 415(c) limitations~~which there are Excess Annual Additions, an adjustment to comply with this Article V shall be made as soon as administratively practicable, but no later than the time permitted under ~~the~~ Internal Revenue ~~Service~~Code: (i) first, to any plan maintained by the Participant or another employer that is required to be aggregated under Code Section 415(c) with the Plan; (ii) second, to any plan that is required to be aggregated with this Plan not described in (iv); (iii) third, to the Plan; and (iv) fourth, to the State of Maryland Optional Retirement Plan.

ARTICLE VI.
ACCOUNTING

Section 6.01. Participant Accounts. The Vendor(s) shall establish and maintain adequate records to reflect the Accounts of each Participant and Beneficiary. Credits and charges shall be made to such Accounts to reflect additions, distributions, and withdrawals, and to reflect gains or losses pursuant to the terms of each Investment Arrangement. The maintenance of individual Accounts is for accounting purposes only, and a segregation of Plan assets to each Account shall not be required.

Section 6.02. Participant Statements. The Vendor(s) shall provide to each Participant a quarterly statement reflecting the value of the Participant's Account as of the end of each quarter, and shall provide similar information to the Administrator upon its request.

Section 6.03. Value of Account. The value of the Account of a Participant as of any valuation date is the value of the Account balance as determined by the Vendor. The valuation date shall be the last day of the Plan Year and each other date designated by the Administrator or Vendor in a uniform and nondiscriminatory manner. All transactions and Account records shall be based on fair market value.

ARTICLE VII.
INVESTMENT OF ~~CONTRIBUTIONS~~ ACCOUNTS

Section 7.01. Vendors and Investment Options.

(a) All Contributions under the Plan shall be transferred to the Vendor(s) to be held, managed, invested and distributed in accordance with the provisions of the Plan and the Investment Arrangements as applicable. All benefits under the Plan shall be distributed solely from the Investment Arrangements, and the Employer shall have no liability for any such benefits other than the obligation to make Contributions as provided in the Plan.

(b) Participants' Accounts shall be invested in one or more of the Investment Options available to Participants ~~from a Vendor(s) approved~~ under this Plan, as selected by the Administrator and communicated to Participants. ~~The current Vendor(s) are listed in Appendix A.~~ The Administrator's current selection of Vendor(s) and Investment Options is not intended to limit future additions or deletions of Vendor(s) or Investment Options.

(c) A Participant shall have the right to direct the investment of his or her Accounts by filing the Applicable Form with the Vendor(s). A Participant may change his or her investment election as often as determined by the Vendor(s). A Participant may elect to transfer all or any portion of his or her Accounts invested in any one Investment Option to another Investment Option, regardless of whether offered by the same or a different Vendor, subject to the limitations of the Investment Arrangements, by filing a request on the Applicable Form with the Vendor(s) or by such other means that may be provided for by the Vendor(s). A Participant may also elect to transfer all or any portion of his or her Accounts invested with a Former Vendor to an Investment Option with a Vendor, subject to the terms of the Investment Arrangements. In no event, however, may a Participant transfer any portion of his or her Accounts invested ~~in an Investment Option with a Vendor to an investment~~ with a Former Vendor, or any other vendor that is not ~~eligible~~ approved to receive Contributions under the Plan, to an Investment Option with a Vendor.

Section 7.02. Exclusive Benefit. Each Custodial Account shall provide for it to be impossible, prior to the satisfaction of all liabilities with respect to Participants and their Beneficiaries, for any part of the assets and income of the Custodial Account to be used for, or diverted to, purposes other than for the exclusive benefit of Participants and Beneficiaries.

Section 7.03. Default Investments. If a Participant does not have a valid and complete investment direction on file with the Vendor on the Applicable Form, Contributions will be invested in a default Investment Option selected by the Administrator in its sole and absolute discretion, until the Participant makes an affirmative election regarding the investment of his or her Account.

ARTICLE VIII.
DISTRIBUTIONS

Section 8.01. Commencement of Distributions.

(a) A Participant or, if applicable, a Beneficiary, shall be eligible to receive a distribution of his or her Vested Account under the Plan ~~upon~~if the ~~Participant's~~Participant:

- (1) has a Severance from Employment;
- (2) ~~death~~dies;
- (3) ~~Disability~~is Disabled;
- (4) ~~attainment of~~attains age 59½; or
- (5) ~~financial hardship, as described in Section 8.03~~qualifies for a Financial Hardship Distribution or Coronavirus-Related Distribution.

(b) ~~The~~Except for a Participant's interest in the Plan being held in a Custodial Account, the distribution restrictions in paragraph (a) do not apply to Pre-Tax Contributions to the Plan prior to January 1, 1989 (not including earnings thereon), provided such Pre-Tax Contributions are separately accounted for under the Plan.

(c) Subject to the terms of the Investment Arrangements, Participants may elect to have either Pre-Tax Contributions or Roth Contributions distributed from the Plan first. Unless provided otherwise under the terms of the applicable Investment Arrangement, if the Participant fails to make an election, Pre-Tax Contributions will be distributed from the Plan first.

(d) Subject to the terms of the Investment Arrangements, a Rollover Contribution Account may be distributed to a Participant at any time, to the extent that Rollover Contributions have been separately accounted for by the Vendor.

(e) A Participant or Beneficiary may submit a request for a distribution to the Vendor on the Applicable Form. The Employer shall certify that the Participant has had a Severance from Employment or is Disabled.

Section 8.02. Form of Distribution.

(a) A Participant may elect to receive his or her Vested Account under any payment option available under the Investment Arrangement. Subject to the terms of the Investment Arrangement, these may include, but are not necessarily limited to, a single lump sum, annuity payments, and installment payments. All forms of payment shall be subject to the limitations of the Investment Arrangement.

(b) To the extent permitted by the Investment Arrangement, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account balance does not exceed \$1,000 (determined without regard to his or her Rollover

Contribution Account), unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.

(c) To the extent permitted by the Investment Arrangement, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account balance exceeds \$1,000 but does not exceed \$7,000 (before January 1, 2024, \$5,000), determined without regard to his or her Rollover Contribution Account, provided that such distribution shall be made in a direct rollover to an individual retirement plan designated by the Administrator, unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.

Section 8.03. Financial Hardship Distributions.

(a) To the extent (i) a Vendor has been approved by the Administrator to allow ~~hardship withdrawals~~Financial Hardship Distributions under the Plan and (ii) a ~~hardship withdrawal~~Financial Hardship Distribution is permitted by the terms governing the applicable Investment Arrangement, distribution of Elective Deferrals (prior to January 1, 2024, excluding any earnings on such Elective Deferrals after December 31, 1988) may be made to a Participant who is an Employee in the event of hardship. ~~A hardship distribution~~No Financial Hardship Distributions shall be permitted from Investment Arrangements held by Former Vendors. A Financial Hardship Distribution may only be made on account of an immediate and heavy financial need of the Participant and where the distribution is necessary to satisfy the immediate and heavy financial need. Participants may be charged a reasonable processing fee per ~~hardship withdrawal~~Financial Hardship Distribution.

(b) The following are the only financial needs considered immediate and heavy:

(1) expenses incurred or necessary for medical care described in Code Section 213(d) (without regard to whether the expenses exceed 7.5% of adjusted gross income) of the Participant, the Participant's Spouse or dependents (as defined in Code Section 152, but without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(2) the purchase (excluding mortgage payments) of a principal residence for the Participant;

(3) payment of tuition and related educational fees and room and board expenses for the next 12 months of post-secondary education for the Participant, the Participant's Spouse or dependents (as defined in Code Section 152, but without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(4) payments necessary to prevent the eviction of the Participant from, or a foreclosure on the mortgage of, the Participant's principal residence;

(5) payments for funeral or burial expenses for the Participant's deceased parent, Spouse, any dependent (as defined in Code Section 152, but without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(6) expenses to repair damage to the Participant's principal residence that would qualify for a casualty loss deduction under Code Section 165 (determined without regard to Code Section 165(h)(5) and without regard to whether the loss exceeds 10% of adjusted gross income);

(7) expenses and losses (including loss of income) incurred by the Participant on account of a disaster declared by the Federal Emergency Management Agency (FEMA) under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-707, provided that the Participant's principal residence or principal place of employment at the time of the disaster was located in an area designated by FEMA for individual assistance with respect to the disaster; and

(8) such other circumstances as the Commissioner of Internal Revenue determines constitute financial hardship under Code Section 401(k) or the Treasury Regulations thereunder.

(c) A distribution will be considered necessary to satisfy an immediate and heavy financial need of the Participant only if:

(1) The distribution is not in excess of the amount of the immediate and heavy financial need (including amounts necessary to pay any federal, state or local income taxes or penalties reasonably anticipated to result from the distribution);

(2) The Participant has obtained all distributions currently available under the Plan or any other plans maintained by the Employer, other than hardship distributions and non-taxable loans;

~~(3) For distributions on or before December 31, 2019, all plans maintained by the Employer provide that the Participant's Elective Deferrals will be suspended until the earlier of (i) six months after the receipt of the hardship distribution or (ii) January 1, 2020;~~

~~(3)~~ ~~(4) For distributions made on or after January 1, 2020, the~~ The Participant represents that he or she has insufficient cash or other liquid assets reasonably available to satisfy the need; and

~~(4)~~ ~~(5)~~ The Participant has met any such additional or alternative requirements as may be prescribed in Treasury Regulation Section 1.401(k)-1(d)(3)(iv)(E) or subsequent promulgations.

(d) A Participant must provide substantiation of the reason for and the amount of the immediate and heavy financial need to the Vendor; provided, however, that unless it has actual knowledge to the contrary, the Vendor can rely on the Participant's self-certification that the request satisfies the requirements of this Section. The Vendor shall approve all ~~hardship distributions~~ Financial Hardship Distributions under this Section 8.03.

~~(e) The Administrator shall take such steps as appropriate to coordinate the hardship distribution rules, including collection of information from Vendors, and transmission of~~

~~information requested by any Vendor. The Administrator may delegate this responsibility to a Vendor or to another service provider pursuant to Article XII of the Plan.~~

Section 8.04. Coronavirus-Related Distributions.

(a) Subject to the terms of the Investment Arrangements, a Participant who is a Qualified Individual may, on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), and before December 31, 2020, request one or more Coronavirus-Related Distributions from his or her Accounts regardless of whether he or she has had a Severance from Employment, subject to the following conditions:

(1) Coronavirus-Related Distributions to a Participant from this Plan and all other plans maintained by the Employer or a Related Employer may not exceed \$100,000; and

(2) A Participant shall certify to the Administrator or Vendor that he or she is a Qualified Individual prior to receiving a Coronavirus-Related Distribution.

(b) A Participant who has received a Coronavirus-Related Distribution from the Plan may, at any time during the three year period beginning on the day after the date on which such distribution was received repay such Coronavirus-Related Distribution by making one or more Rollover Contributions to the Plan which, in an aggregate amount, do not exceed the amount of such Coronavirus-Related Distribution. The preceding sentence shall not apply to any Participant who is not eligible to make a Rollover Contribution to the Plan under Section 4.03.

Section 8.05. Section 8.04. Reemployment. If a Participant who is a former Employee subsequently becomes an Employee again, the Participant cannot request a distribution of his or her Vested ~~Accounts~~Account until he or she is again entitled to a distribution under Section 8.01.

Section 8.06. Section 8.05. Death Benefits. If a Participant dies before the distribution of his or her entire Account, his or her remaining Account shall be distributed to his or her Beneficiary(ies) as soon as administratively practicable after the Participant's death, unless the Beneficiary elects a later payment date on the Applicable Form, subject to Code Section 401(a)(9). A Beneficiary may elect to receive the Participant's Account under any distribution option available under the Section 8.02, subject to Code Section 401(a)(9).

Section 8.07. Section 8.06. Required Distribution Rules.

(a) The provisions of this Section ~~8.06~~8.07 take precedence over any inconsistent provisions of the Plan or of any Investment Arrangement. All distributions under this Plan shall be made in accordance with a reasonable good faith interpretation of Code Section 401(a)(9) and the regulations promulgated thereunder, including the incidental death benefit rules under Code Section 401(a)(9)(G), and shall comply with the following rules: and the changes under the Setting Every Community Up for Retirement Enhancement (SECURE) Act of 2019, SECURE 2.0 of 2022, and Treasury Regulation Sections 1.401(a)(9)-1 through -9, as each may be amended from time to time.

(b) ~~(a)~~ Distributions may only be made over one of the following periods (or a combination thereof):

- (1) The life of the Participant;
- (2) The life of the Participant and a ~~designated~~ Designated Beneficiary;
- (3) A period certain not extending beyond the life expectancy of the Participant;

or

- (4) A period certain not extending beyond the joint and last survivor life expectancy of the Participant and ~~designated~~ Designated Beneficiary;

provided, however, that distributions under this paragraph (b) that are paid in calendar years 2024 and later during the lifetime of the Participant shall be determined without regard to the Participant's Roth Contribution Account or to any subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon.

(c) ~~(b)~~ A Participant's Accounts shall be distributed to the Participant beginning no later than April 1 of the calendar year following the later of (i) the calendar year in which the Participant attains ~~age 70½ or, if later, April 1 of~~ his or her applicable age within the meaning of Code Section 401(a)(9)(C)(v) or (ii) the calendar year ~~following the calendar year that the~~ in which the Participant has a Severance from Employment.

(d) ~~(e)~~ Notwithstanding anything to the contrary in this Section ~~8.06~~ 8.07, if the Vendor(s) separately accounts for Contributions made prior to January 1, 1987, then distribution of such Contributions (but not any interest accumulated with respect thereto) need not commence until April 1 of the calendar year following the calendar year in which the Participant attains age 75.

~~(d) Upon the death of the Participant, the following distribution provisions shall take effect:~~

(e) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant before distribution of his or her Account has begun under paragraph (c) or (d), the following distribution provisions shall take effect:

~~(1) If the Participant dies after distribution of his or her Account(s) begins, any remaining portion of the Account(s) shall continue to be distributed at least as rapidly as under the method of distribution in effect at the time of~~ The portion of the Participant's Account(s) payable to a Beneficiary that is not a Designated Beneficiary shall be distributed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

~~(2) If the Participant dies before distributions of his or her Account(s) begins and the Participant has no designated Beneficiary(ies),~~ The portion of the Participant's Account(s) payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed by December 31 of the calendar year containing the ~~fifth~~ tenth anniversary of the Participant's death.

(3) ~~If the Participant dies before distributions of his or her Account(s) begins and any~~ The portion of ~~his or her Account(s) are payable to a designated Beneficiary, the designated Beneficiary may elect for~~ the Participant's Account(s) ~~to~~ payable to an Eligible Designated Beneficiary shall be distributed, pursuant to the election of the Eligible Designated Beneficiary, either (i) by December 31 of the calendar year containing the ~~fifth~~tenth anniversary of the Participant's death, or (ii) beginning no later than December 31 of the calendar year immediately following the calendar year in which the Participant died, over the life of the ~~designated~~Eligible Designated Beneficiary or over a period not exceeding the life expectancy of the ~~designated~~Eligible Designated Beneficiary. If the ~~designated~~Eligible Designated Beneficiary is the surviving Spouse, the Eligible Designated Beneficiary may elect to delay payment under item (ii) until December 31 of the calendar year in which the Participant would have attained ~~age 70½. If the designated~~the applicable age within the meaning of Code Section 401(a)(9)(C)(v). If the Eligible Designated Beneficiary does not elect a method of distribution as provided above, the Participant's Account(s) shall be distributed in accordance with item (i).

(f) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant after distribution of his or her Account has begun under paragraph (c) or (d), any remaining portion of his or her Account shall continue to be distributed at least as rapidly as under the method of distribution in effect at the time of the Participant's death; provided, however, that the portion of the Participant's Account payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed in its entirety by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(g) Upon the death of an Eligible Designated Beneficiary, or the attainment of age 21 of an Eligible Designated Beneficiary who is a minor child of the Participant, before distribution of the Participant's entire Account under paragraphs (e) or (f), the remainder of the Participant's Account shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Eligible Designated Beneficiary's death, or by December 31 of the calendar year in which the child attains age 31, as applicable.

(h) ~~(4)~~ Any distribution required under the incidental death benefit requirements of Code Section 401(a) shall be treated as ~~distributions~~a distribution required under this Section ~~8.06(d)~~8.07.

(i) ~~(e)~~ Each Vendor shall be separately and solely responsible for complying with the provisions of this Section ~~8.06~~8.07 with respect to its Investment Arrangements under the Plan. The Vendor(s) shall calculate the amounts required to be distributed to a Participant under this Section and notify such Participant of such distributions at least 60 days prior to the date distributions must begin.

Section 8.07. Transfer to Defined Benefit Governmental Plan.

~~(a) If a Participant is also a participant in a tax-qualified defined benefit governmental plan (as defined in Code Section 414(d)) that provides for the acceptance of plan-to-plan transfers with respect to the Participant, then the Participant may elect to have any portion of the Participant's Account transferred to the defined benefit governmental plan, subject to the terms of the~~

~~Investment Arrangement. A transfer under this Section may be made before the Participant has had a Severance from Employment.~~

~~(b) A transfer may be made under this Section only if the transfer is either for the purchase of permissive service credit (as defined in Code Section 415(n)(3)(A)) under the receiving defined benefit governmental plan or a repayment to which Code Section 415 does not apply by reason of Code Section 415(k)(3).~~

(j) Notwithstanding anything in this Section 8.07 to the contrary, for 2020 the minimum distribution requirements will be satisfied as provided in this section, as determined by the terms of the Investment Arrangement governing the Participant's or Beneficiary's required minimum distribution.

(1) Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive a required minimum distribution in 2020 (or paid in 2021 for the 2020 calendar year for a Participant with a required beginning date of April 1, 2021) but for the enactment of Code Section 401(a)(9)(I) ("2020 RMDs") and who would have satisfied that requirement by receiving distributions that are either (i) equal to the 2020 RMDs, or (ii) one or more payments (that include the 2020 RMDs) in a series of substantially equal periodic payments made at least annually and expected to last for the life (or life expectancy) of the Participant, the joint lives (or joint life expectancies) of the Participant and the Beneficiary, or for a period of at least 10 years ("Extended 2020 RMDs"), will not receive this distribution unless the Participant or Beneficiary chooses to receive the distribution. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to receive the distribution described in the preceding sentence.

(2) Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive a 2020 RMD, and who would have satisfied that requirement by receiving distributions that are (i) equal to the 2020 RMDs or (ii) Extended 2020 RMDs, will receive this distribution unless the Participant or Beneficiary chooses not to receive such distributions. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to stop receiving the distribution described in the preceding sentence.

(3) In addition, solely for purposes of applying the direct rollover provisions of Article XI, 2020 RMDs and Extended 2020 RMDs will or will not be treated as eligible rollover distributions in 2020 as determined by the terms of the Investment Arrangement governing the Participant's or Beneficiary's required minimum distribution.

Section 8.08. Additional Tax on Early Withdrawals.

~~(a) Generally, and except as described in paragraph (b),~~ if a Participant receives any amount under the Plan prior to the date on which the Participant attains age 59½, unless an exception under Code Section 72(t) applies, his or her tax for the taxable year in which such amount is received is increased by an amount equal to 10% of the portion of such amount which is includible in gross income. Such amount shall be included in gross income to the extent

allocable to income on the Investment Arrangement and shall not be included in gross income to the extent allocable to the investment in the Investment Arrangement as provided in Code Section 72(e)(2)(b).

~~(b) The penalty described in paragraph (a) generally does not apply to any distribution (i) made on or after the date on which the Participant attains age 59½, (ii) made on or after the death of the Participant, (iii) attributable to the Participant becoming Disabled, (iv) which is part of a series of substantially equal periodic payments made (not less frequently than annually) for the life or life expectancy of the Participant or the joint lives (or joint life expectancies) of such Participant and his or her designated Beneficiary, (v) made to a Participant after Severance from Employment following the attainment of age 55, (vi) which is a qualified reservist distribution within the meaning of Code Section 72(t)(2)(G)(iii), or (vii) any other circumstance permitted by the Code or the Internal Revenue Service.~~

ARTICLE IX. LOANS

Section 9.01. Loans Generally.

(a) To the extent (i) a Vendor has been approved by the Administrator to allow loans under the Plan and (ii) loans are permitted by the terms governing the applicable Investment Arrangement, loans shall be available to a Participant who is an Employee from his or her Vested Account. No loans shall be permitted from Investment Arrangements held by Former Vendors.

(b) Loans shall be subject to all applicable requirements and restrictions of the Code, including the provisions of Code Section 72(p) and the regulations thereunder. A Participant who has defaulted on a loan shall not be entitled to a future loan under the Plan until it has been fully repaid to the Plan.

(c) All loans shall be subject to the approval of the Vendor. The Vendor may charge a reasonable processing fee with respect to any loan.

(d) If a Participant who is a Qualified Individual has an outstanding loan on or after March 27, 2020, and certifies that he or she is a Qualified Individual, and the Vendor has been approved by the Administrator to administer delayed loan repayments under the Plan, this paragraph (d) shall apply:

(1) if the due date under Code Section 72(p) for any repayment with respect to such loan occurs during the period beginning on March 27, 2020, and ending on December 31, 2020, such due date shall be delayed for one year **subject to the terms of the Investment Arrangement**;

(2) any subsequent repayments with respect to any such loan shall be appropriately adjusted to reflect the delay in the due date under paragraph (1) and any interest accruing during such delay; and

(3) in determining the five year period and the term of a loan under Code Section 72(p), the period described in paragraph (1) shall be disregarded.

Section 9.02. Loan Procedures. The Vendor shall establish written procedures to govern Participant loans under the Plan, which may be amended from time to time. All loans shall comply with such procedures, and shall be administered subject to the terms of the applicable Investment Arrangement.

Section 9.03. Loan Limits.

(a) No loan to a Participant under the Plan may exceed the lesser of:

(1) \$50,000, reduced by the greater of (i) the outstanding balance on any loan from the Plan to the Participant on the date the loan is made or (ii) the highest outstanding balance on loans from the Plan to the Participant during the one-year period ending on the day before the date the loan is approved by the Vendor (not taking into account any payments made during such one-year period); or

(2) One-half of the value of the Participant's Vested Account (as of the valuation date immediately preceding the date on which such loan is approved by the Vendor).

Notwithstanding the foregoing, with respect to any loan made to a Participant who is a Qualified Individual on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before September 24, 2020, the loan limits under this paragraph (a) shall apply by substituting (i) "\$100,000" for "\$50,000" under subparagraph (a)(1), and (ii) "The value of the Participant's Vested Account" for "One-half of the value of the Participant's Vested Account" under subparagraph (a)(2).

(b) For purposes of this Section, any loan from any other plan maintained by the Employer and any Related Employer shall be treated as if it were a loan made from the Plan, and the Participant's vested interest under any such other plan shall be considered a Vested interest under this Plan; provided, however, that the provisions of this paragraph shall not be applied so as to allow the amount of a loan to exceed the amount that would otherwise be permitted in the absence of this paragraph.

(c) The Administrator shall take such steps as appropriate to coordinate the limitations on loans, including collection of information from Vendors, and transmission of information requested by any Vendor. The Administrator may delegate this responsibility to a Vendor or to another service provider pursuant to Article XII of the Plan.

ARTICLE X.
VESTING

A Participant or, in the event of the Participant's death, the Beneficiary, shall be 100% Vested in his or her ~~Account~~Accounts at all times.

ARTICLE XI
ELIGIBLE ROLLOVERS FROM THIS PLAN

Section 11.01. Definitions for this Article. For purposes of this Article, the following definitions shall apply.

(a) "Direct Rollover" means an Eligible Rollover Distribution that is paid directly to an Eligible Retirement Plan for the benefit of the Distributee.

(b) "Distributee" means a Participant, the Spouse of the Participant, the Participant's former Spouse who is an alternate payee within the meaning of Code Section 414(p)(8), and, effective January 1, 2008, a Participant's non-Spouse Beneficiary, any of whom is eligible to receive a distribution from the Plan.

(c) "Eligible Retirement Plan," as defined under Code Section 402(c)(8)(B), means:

- (1) an individual retirement account described in Code Section 408(a);
- (2) an individual retirement annuity (other than an endowment contract) described in Code Section 408(b);
- (3) a simple retirement account described in Code Section 408(p)(1) following the two year period described in Code Section 72(t)(6);
- (4) any annuity plan described in Code Section 403(a);
- (5) a plan described in Code Section 403(b);
- (6) a qualified plan described in Code Section 401(a);
- (7) a Code Section 457(b) eligible deferred compensation plan which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state; and
- (8) effective January 1, 2008, a Roth individual retirement account described in Code Section 408A(e), provided the Distributee's adjusted gross income does not exceed any limit applicable under federal law for the tax year in which the distribution occurs.

Effective January 1, 2008, in the case of a distribution to a Participant's non-Spouse Beneficiary, an Eligible Retirement Plan shall mean the plans described in subparagraphs (1) and (2) only, to the extent consistent with the provisions of Code Section 402(c)(11) and any successor provisions thereto or additional guidance issued thereunder.

(d) "Eligible Rollover Distribution," as defined in Code Section 402(f)(2)(A), means any distribution of all or any portion of the balance to the credit of the Distributee under this Plan, except that an Eligible Rollover Distribution does not include:

(1) any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the Distributee or the joint lives (or joint life expectancies) of the Distributee and the Distributee's designated ~~beneficiary~~Beneficiary, or for a period of ten years or more;

(2) any distribution to the extent such distribution is required under Code Section 401(a)(9);

(3) the portion of any distribution that is not includible in gross income; provided, however, a portion of a distribution shall not fail to be an Eligible Rollover Distribution merely because the portion consists of after-tax employee contributions that are not includible in gross income. However, such portion may be transferred only:

(i) to an individual retirement account or annuity described in Code Section 408(a) or 408(b), respectively, or to a qualified defined contribution plan described in Code Section 401(a) that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of such distribution which is not so includible;

(ii) to a qualified defined benefit plan described in Code Section 401(a) or to an annuity contract described in Code Section 403(b), that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of the distribution that is not so includible; or

(iii) to a Roth IRA described in Code Section 408A;

(4) any distribution which is made upon the financial hardship of the Participant; and

(5) other items designated by regulations, or by the Commissioner in revenue rulings, notices, or other guidance, as items that do not constitute an eligible rollover distribution.

Section 11.02. Direct Transfer of Eligible Rollover Distribution. A Distributee may elect on an Applicable Form to have an Eligible Rollover Distribution paid directly to an Eligible Retirement Plan as specified by the Distributee in a Direct Rollover, at the time and in the manner prescribed by the Vendor. An Eligible Rollover Distribution that is paid to an Eligible Retirement Plan in a Direct Rollover is excludable from the Distributee's gross income under Code Section 402; provided, however, if any portion of such Eligible Rollover Distribution is subsequently distributed from the Eligible Retirement Plan, that portion shall be included in gross income to the extent required under Code Section 402, 403, or 408.

Section 11.03. Mandatory Withholding of Eligible Rollover Distributions.

(a) If the Distributee of an Eligible Rollover Distribution does not elect to have the Eligible Rollover Distribution paid directly from the Plan to an Eligible Retirement Plan in a Direct

Rollover pursuant to Code Section 401(a)(31), the Eligible Rollover Distribution shall be subject to a mandatory 20% federal income tax withholding under Code Section 3405(c). Only that portion of the Eligible Rollover Distribution that is not paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover shall be subject to the mandatory withholding requirement under Code Section 3405(e), and only to the extent such amount would otherwise be includible in the Distributee's taxable gross income.

(b) If a Distributee elects to have an Eligible Rollover Distribution paid to the Distributee, the distribution may be excluded from gross income of the Distributee provided that said distribution is contributed to an Eligible Retirement Plan no later than the 60th day following the day on which the Distributee received the distribution.

(c) If the Plan distribution is not an Eligible Rollover Distribution, said distribution shall be subject to the elective withholding provisions of Code Section 3405(a) and (b).

Section 11.04. Explanation of Plan Distribution and Withholding Requirements.

Not fewer than 30 days nor more than 180 days before an Eligible Rollover Distribution, the Vendor shall provide each Distributee a written explanation as required under Code Section 402(f), which explains the rules:

(a) under which a Distributee may elect to have an Eligible Rollover Distribution paid in a Direct Rollover to an Eligible Retirement Plan;

(b) that require the withholding of tax on an Eligible Rollover Distribution if it is not paid in a Direct Rollover to an Eligible Retirement Plan;

(c) that provide that a distribution shall not be subject to tax if the distribution is rolled over to an Eligible Retirement Plan within 60 days after the date the ~~Distributee~~Distributee receives the distribution (unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance); and

(d) if applicable, certain special rules regarding taxation of the distribution as described in Code Sections 402(d) and (e).

Notwithstanding the above, a distribution may begin fewer than 30 days after the notice discussed in the preceding sentence is given, provided that the Vendor clearly informs the Participant that he or she has a right to a period of at least 30 days after receiving the notice to consider the decision of whether or not to elect a distribution and the Participant, after receiving a notice, affirmatively elects a distribution.

ARTICLE XII.
PLAN-TO-PLAN TRANSFERS

Section 12.01. Plan-to-Plan Transfers.

(a) A transfer from this Plan to the State of Maryland Tax Sheltered Annuity 403(b) Plan ("MSRP 403(b) Plan"), a Code Section 403(b) plan maintained by an eligible employer

described in Code Section 403(b)(1)(A)(ii) within the State of Maryland, is permitted under the following conditions:

(1) The MSRP 403(b) Plan provides for the receipt of plan-to-plan transfers;

(2) The Participant whose Account is being transferred will have an accumulated benefit immediately after the transfer at least equal to the accumulated benefit with respect to that Participant immediately before the transfer;

(3) The Participant whose Account is being transferred is an employee or former employee of the employer maintaining the MSRP 403(b) Plan;

(4) The MSRP 403(b) Plan provides for distribution restrictions on the transferred amounts that are no less stringent than those under the Plan;

(5) If the transfer does not constitute a complete transfer of the Participant's interest in the Plan, the MSRP 403(b) Plan treats the amount transferred as a continuation of a pro rata portion of the Participant's interest in the Plan; and

(6) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.403(b)-10(b)(3) and such other rules and policies established by the Administrator or Vendor.

(b) A transfer to this Plan from the MSRP 403(b) Plan is permitted under the following conditions:

(1) The MSRP 403(b) Plan provides for plan-to-plan transfers;

(2) The Participant whose account is being transferred will have an accumulated benefit immediately after the transfer at least equal to the accumulated benefit with respect to that Participant immediately before the transfer;

(3) The Participant whose account is being transferred is an Employee or former Employee of an Employer;

(4) If the transfer does not constitute a complete transfer of the Participant's interest in the MSRP 403(b) Plan, the Plan treats the amount transferred as a continuation of a pro rata portion of the Participant's interest in the MSRP 403(b) Plan; and

(5) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.403(b)-10(b)(3) and such other rules and policies established by the Administrator or Vendor.

(c) Any amount transferred to the Plan under paragraph (b) shall be credited to the Participant's Transfer Account and shall be held, accounted for, administered and otherwise treated in the same manner as an Elective Deferral by the Participant under the Plan, except that the transferred amount shall not be considered an Elective Deferral under the Plan in determining the maximum deferral under Article V.

[Section 12.02.](#) [Permissive Service Credit Transfers.](#)

[\(a\)](#) [If a Participant is also a participant in a tax-qualified defined benefit governmental plan \(as defined in Code Section 414\(d\)\) that provides for the acceptance of plan-to-plan transfers with respect to the Participant, then the Participant may elect to have any portion of the Participant's Account transferred to the defined benefit governmental plan. A transfer under this Section may be made before the Participant has had a Severance from Employment.](#)

[\(b\)](#) [A transfer may be made under this Section only if the transfer is either for the purchase of permissive service credit \(as defined in Code Section 415\(n\)\(3\)\(A\)\) under the receiving defined benefit governmental plan or a repayment to which Code Section 415 does not apply by reason of Code Section 415\(k\)\(3\).](#)

~~[ARTICLE XIII](#)~~[ARTICLE XII](#)
[PLAN ADMINISTRATION](#)

[Section 13.01.](#) ~~[Section 12.01.](#)~~ [Authority of the Administrator.](#) The Administrator shall have the authority to control and manage the operation and administration of the Plan. The Administrator shall have all power necessary or convenient to enable it to exercise its authority under the Plan. The Administrator may provide rules and regulations, not inconsistent with the provisions hereof, for the operation and management of the Plan, and may from time to time amend or rescind such rules or regulations. The Administrator is authorized to accept service of legal process for the Plan.

[Section 13.02.](#) ~~[Section 12.02.](#)~~ [Powers of the Administrator.](#) The Administrator shall have the power and discretion to construe and interpret the Plan, including any ambiguities, to determine all questions of fact or law arising under the Plan, and to resolve any disputes arising under and all questions concerning administration of the Plan. The Administrator may correct any defect, supply any omission or reconcile any inconsistency in the Plan in such manner and to such extent as the Administrator may deem expedient and, subject to the Plan's claim procedures, the Administrator shall be the sole and final judge of such expediency. Benefits are payable under the Plan only if the Administrator, in its sole and absolute discretion, determines the benefits are payable under the provisions the Plan.

[Section 13.03.](#) ~~[Section 12.03.](#)~~

Delegation by Administrator.

(a) The Administrator may from time to time delegate in writing to a committee or any duly authorized officer certain of its fiduciary duties or other responsibilities under the Plan. Any such committee or officer delegated fiduciary duties shall be a fiduciary until the Administrator revokes such delegation. A delegation of the Administrator's duties or responsibilities may be revoked without cause or advance notice. To the extent permitted under applicable law, such committee or officer shall have the same power and authority with respect to such delegated fiduciary or other responsibilities as the Administrator has under the Plan. The Administrator shall not be liable for any act or omission of such fiduciary in carrying out such responsibilities.

(b) The Administrator has designated the Vendors to be responsible for providing information to Participants regarding enrollment, ~~investment options~~Investment Options, and performance; processing contributions, withdrawal requests, transfers, and changes in ~~investment options~~Investment Options; providing record keeping services and such other services as provided for under agreements between the Vendors and the Administrator.

(c) The Administrator may designate one of the Vendors or another service provider to provide for the collection and coordination of information relating to ~~hardship withdrawals~~Financial Hardship Distributions, in-service distributions, loans, contribution limits, and any other administrative function under the Plan.

Section 13.04. ~~Section 12.04.~~ **Fiduciary Insurance.** Subject to State law, the Board may require the purchase of fiduciary liability insurance for any Plan fiduciary or fiduciaries to cover liability or losses occurring by reason of the act or omission of a fiduciary.

Section 13.05. ~~Section 12.05.~~ **Employment of Consultants.** The Administrator may employ one or more persons to render advice with regard to its responsibilities under the Plan.

ARTICLE XIV. ARTICLE XIII. **CLAIMS PROCEDURES**

Section 14.01. ~~Section 13.01.~~ **Requests for Information Concerning Eligibility, Participation and Contributions.** Requests for information concerning eligibility, participation, contributions, or any other aspects of the operation of the Plan, and service of legal process, should be in writing and directed to the Administrator of the Plan. If a written request is denied, the Administrator shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Administrator and may submit issues and comments in writing to the Administrator. The Administrator shall provide to the Participant a written decision upon such request for review of a denied claim.

Section 14.02. ~~Section 13.02.~~ **Requests for Information Concerning Investment Arrangements.** Requests for information concerning the Annuity Contracts and Custodial Accounts and their terms, conditions, and interpretations thereof, claims thereunder, any requests for review of such claims, and service of legal process, should be in writing and directed to the Vendor. If a written request is denied, the Vendor shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Vendor and may submit issues and comments in writing to the Vendor. The Vendor shall

provide to the Participant a written decision upon such request for review of a denied claim.

~~ARTICLE XV. ARTICLE XIV.~~
AMENDMENT AND TERMINATION

Section 15.01. ~~**Section 14.01. Amendment and Termination of Plan.**~~ The Board shall have the right, in its sole and final discretion, to amend or terminate the Plan at any time and from time to time to any extent which it may deem advisable.

Section 15.02. ~~**Section 14.02. Restrictions on Amendments.**~~ The Plan may not be amended in a manner that violates any provision of the Code.

Section 15.03. ~~**Section 14.03. Distribution Upon Termination of the Plan.**~~ The Board may provide that, in connection with a termination of the Plan, all Accounts shall be distributed, provided that the Employer and any Related Employer on the date of the termination does not make contributions to an alternative Code Section 403(b) plan that is not part of the Plan during the period beginning on the date of Plan termination and ending 12 months after the distribution of all assets from the Plan, except as permitted by the regulations. For purposes of distributing all ~~accumulated benefits under~~ assets from the Plan in the event of a Plan termination, (i) delivery of a fully paid individual insurance annuity contract, and/or (ii) distribution of an individual custodial account in kind, shall be treated as a distribution.

~~ARTICLE XVI. ARTICLE XV.~~
MISCELLANEOUS

Section 16.01. ~~**Section 15.01. Non-Alienation.**~~

(a) A Participant's Account under the Plan shall not be liable for any debt, liability, contract, engagement, or tort of the Participant or his or her Beneficiary, nor subject to anticipation, sale, assignment, transfer, encumbrance, pledge, charge, attachment, garnishment, execution, alienation, or any other voluntarily or involuntarily alienation or other legal or equitable process, nor transferable by operation of law.

(b) Notwithstanding paragraph (a), the Plan shall comply with any judgment, decree or order ("domestic relations order") which establishes the right of an alternate payee within the meaning of Code Section 414(p)(8) to all or a portion of a Participant's benefit under the Plan to the extent that it is a "qualified domestic relations order" ("QDRO") under Code Section 414(p). The Vendor shall establish reasonable written procedures to determine whether a domestic relations order is a QDRO and to administer the distribution of benefits with respect to such orders, which procedures may be amended from time to time, and which shall be provided to Participants upon request. Notwithstanding any other provisions in the Plan, the Plan may make an immediate distribution to the alternate payee pursuant to a QDRO.

(c) Notwithstanding paragraph (a), the Plan shall offset from the benefit otherwise payable to a Participant or his or her Beneficiary such amounts as are permitted to be offset under a court order, civil judgment, or settlement agreement in accordance with Code Section 401(a)(13)(C).

Section 16.02. ~~**Section 15.02. Military Service.**~~

(a) Notwithstanding any provisions of this Plan to the contrary, contributions, benefits, and service credit with respect to qualified military service shall be provided in accordance with USERRA, HEART, Code Section 414(u), and Code Section 401(a)(37). For purposes of this Section, "qualified military service" means any service in the uniformed services as defined in USERRA by any individual if such individual is entitled to reemployment rights under USERRA with respect to such service.

(b) A Participant whose employment is interrupted by qualified military service or who is on a leave of absence for qualified military service may elect to make Elective Deferrals upon resumption of employment with the Employer up to the maximum Elective Deferrals that the Participant could have elected during that period if the Participant's employment with the Employer had continued (at the same level of Compensation) without the interruption or leave, reduced by the Elective Deferrals, if any, actually made for the Participant during the period of the interruption or leave. Except to the extent provided under Code Section 414(u), this right applies for the lesser of (i) five years following the resumption of employment or (ii) a period equal to three times the period of the interruption or leave. Such Elective Deferrals by the Participant may only be made during such period and while the Participant is reemployed by the Employer.

(c) Effective January 1, 2007, to the extent provided under Code Section 401(a)(37), in the case of a Participant whose employment is interrupted by qualified military service and who dies while performing qualified military service, the survivor of such Participant shall be entitled to any additional benefit (other than benefit accruals) provided under the Plan as if the Participant timely resumed employment in accordance with USERRA and then, on the next day, terminated employment on account of death.

(d) Effective January 1, 2009, differential wage payments within the meaning of Code Section 414(u)(12)(D) shall be treated as Compensation and Includible Compensation under the Plan.

Section 16.03. ~~**Section 15.03. Limitation of Rights and Obligations.**~~ Neither the establishment nor maintenance of the Plan nor any amendment thereof nor any act or omission under the Plan or resulting from the operation of the Plan shall be construed:

(a) as conferring upon any Participant, Beneficiary, or any other person a right or claim against the Administrator or Employer, except to the extent that such right or claim shall be specifically expressed and provided in the Plan;

(b) as creating any responsibility or liability of the Board, the Employer or the Administrator for the validity or effect of the Plan;

(c) as a contract or agreement between the Board, the Employer, or the Administrator and any Participant or other person;

(d) as an agreement, consideration, or inducement of employment or as effecting in any manner or to any extent whatsoever the rights or obligations of the Employer or any Employee

to continue or terminate the employment relationship at any time, except as otherwise provided under any applicable collective bargaining agreement; or

(e) as giving any Participant the right to be retained in the service of the Employer or to interfere with the right of the Employer to discharge any Participant or other person at any time; provided, however, that the foregoing will not be deemed to modify the provisions of any collective bargaining agreements which may have been entered into by the Employer with the bargaining representatives of any Participant.

[Section 16.04.](#) ~~[Section 15.04.](#)~~ **Federal and State Taxes.** It is intended that Contributions other than Roth Contributions under this Plan, plus any earnings thereunder, are excludable from gross income for federal and state income tax purposes until paid to Participants or Beneficiaries, and that Roth Contributions and earnings thereunder are excludable from gross income for federal and state income tax purposes when paid to Participants or Beneficiaries to the extent that they are Qualified Distributions. However, the Administrator does not guarantee that any particular federal or state income, payroll, or other tax consequence will occur as a result of participation in this Plan.

[Section 16.05.](#) ~~[Section 15.05.](#)~~ **Erroneous Payments.** If the Administrator or Vendor makes any payment that, according to the terms of the Plan and the benefits provided hereunder, should not have been made, the Administrator or Vendor may recover that incorrect payment, by whatever means necessary, whether or not it was made due to the error of the Administrator or Vendor, from the person to whom it was made, or from any other appropriate party. For example, if any such incorrect payment is made directly to a Participant, the Administrator or Vendor may deduct it when making any future payments directly to that Participant.

[Section 16.06.](#) ~~[Section 15.06.](#)~~ **Benefit Payment Issue Resolution.** The Administrator, or its designee, if in doubt regarding the correctness of its action with respect to a benefit payment, may direct suspension of payment until satisfied as to the correctness of the payment or the person to receive the payment. Alternatively, the Administrator, or its designee, may file, in any state court of competent jurisdiction, a suit, in the form it deems appropriate, for legal determination of the benefits to be paid and the persons to receive them. The Administrator, or its designee, may also bring a suit, or take other action as it deems appropriate, to resolve questions involving investment directions. The Administrator shall comply with the final order of the court in any such suit, and Participants and the Administrator shall be bound by such an order, insofar as it affects the benefits payable under this Plan, or the method or manner of payment.

[Section 16.07.](#) ~~[Section 15.07.](#)~~ **Release.** Any payments to any Participant shall, to the extent thereof, be in full satisfaction of the claim of such Participant being paid thereby and the Administrator may condition payment thereof on the delivery by the Participant of the duly executed receipt and release in such form as may be determined by the Administrator.

[Section 16.08.](#) ~~[Section 15.08.](#)~~ **Liability.** The Administrator shall not incur any liability in acting upon any notice, request, signed letter, telegram, or other paper or document or electronic transmission believed by the Administrator to be genuine or to be executed or sent by an authorized person.

[Section 16.09.](#) ~~[Section 15.09.](#)~~ **Information Provided by the Participant.** Each Participant should provide to the Administrator at the time of initial enrollment, and later if there are any changes, any information necessary or advisable for the Administrator to administer the Plan.

[Section 16.10.](#) ~~[Section 15.10.](#)~~ **Family Medical Leave Act.** Notwithstanding any provisions of this Plan to the contrary, Contributions and benefits with respect to qualified leave will be provided in accordance with the Family Medical Leave Act of 1993, 29 U.S.C. Section 2601 et. seq.

[Section 16.11.](#) ~~[Section 15.11.](#)~~ **Payments to Minors or Incompetents.** If a Participant or Beneficiary entitled to receive any benefits hereunder is a minor or is determined to be legally incapable of giving valid receipt and discharge for such benefits by a court or by the Administrator, benefits shall be paid to such person as the Administrator may designate for the benefit of such Participant or Beneficiary. Such payments shall be considered a payment to the Participant or Beneficiary and shall, to the extent made, be deemed a complete discharge of any liability for such payments under the Plan.

[Section 16.12.](#) ~~[Section 15.12.](#)~~ **Missing or Lost Participants.** In the event that the Administrator does not have current contact information for or is unable to identify a Participant or Beneficiary under the Plan, the Administrator shall make reasonable attempts to determine the address and identity of the Participant or Beneficiary entitled to benefits under the Plan. A reasonable attempt to locate a missing or lost Participant or Beneficiary shall include (i) providing notice to the Participant at the Participant's last known address via certified mail; (ii) determining whether the Employer's records or the records of another plan maintained by the Employer has a more current address for the Participant; (iii) attempting to contact any named Beneficiary of the Participant; and (iv) searching for the missing Participant via free electronic search tools, such as Internet search engines, public record databases, obituaries, and social media. If such search methods are unsuccessful, based on the facts and circumstances, the Administrator may use other search methods, including using Internet search tools, commercial locator services, credit reporting agencies, information brokers, investigation databases, and analogous services that may involve charges. The Administrator may charge missing Participants and Beneficiaries reasonable expenses for efforts to find them.

[Section 16.13.](#) ~~[Section 15.13.](#)~~ **Indemnification.** The Employer shall satisfy any liability actually and reasonably incurred by any members of the Board or any person to whom any power, authority or responsibility of the Administrator is delegated pursuant to Section ~~12.03~~13.03, except a Vendor or other service provider. These liabilities include expenses, attorney's fees, judgments, fines, and amounts paid in connection with any threatened, pending or completed action, suit or proceeding related to the exercise (or failure to exercise) of this authority. This is in addition to whatever rights of indemnification exist under the regulations or by-laws of the Employer, under any provision of law, or under any other agreement; provided, however, that the Employer will not satisfy any such liability to the extent that the person did not act in good faith.

[Section 16.14.](#) ~~[Section 15.14.](#)~~ **No Reversion.** Under no circumstances or conditions will any Contributions revert to, be paid to, or inure to the benefit of, directly or indirectly, the

Employer, but shall be held for the exclusive purpose of providing benefits to Participants and their Beneficiaries and defraying the reasonable expenses of administering the Plan. However, if Contributions are made by the Employer by a good faith mistake of fact, such amount may be returned to the Employer within one year of the date that they were made to the Plan.

Section 16.15. ~~Section 15.15.~~ **Finality of Determination.** All determinations with respect to crediting of service under the Plan are made on the basis of the records of the Employer, and all determinations made are final and conclusive upon Employees, former Employees, ~~Eligible Employees,~~ former Eligible Employees, and all other persons claiming a benefit under the Plan.

Section 16.16. ~~Section 15.16.~~ **Counterparts.** The Plan may be executed in any number of counterparts, each of which shall be deemed to be an original. All counterparts shall constitute but one and the same instrument and shall be evidenced by any one counterpart.

IN WITNESS WHEREOF, the Board has caused this amended and restated Plan to be executed by its duly authorized representative as of the date written below, but effective as of January 1, ~~2020~~2024.

**UNIVERSITY SYSTEM OF MARYLAND
BOARD OF REGENTS**

Signature

Printed

Title

Date

**UNIVERSITY SYSTEM OF MARYLAND
SUPPLEMENTAL 403(b) RETIREMENT PLAN**

APPENDIX A

APPROVED VENDORS

The current selection of Vendor(s) is not intended to limit future additions or deletions of Vendor(s). The Administrator from time to time may add or delete Vendor(s) which shall be effective on the date adopted by the Administrator and shall be reflected in a revised Appendix A.

1.1 **Approved Vendors**

~~As of January 1, 2020, the~~The Board has approved the following Vendors under the Plan, which remain approved as of January 1, 2024:

- TIAA
- Fidelity Investments

1.2 **Former Vendors**

As of January 1, 2008, ~~the~~AIG VALIC is a Former Vendor under the Plan ~~is AIG VALIC~~.

Summary report:	
Litera Compare for Word 11.5.0.74 Document comparison done on 9/3/2024 9:18:47 AM	
Style name: IM Default	
Intelligent Table Comparison: Active	
Original DMS: nd://4873-6489-5133/1/USM Supplemental 403(b) Retirement Plan 2024.doc	
Modified DMS: nd://4873-6489-5133/3/USM Supplemental 403(b) Retirement Plan 2024.doc	
Changes:	
Add	440
Delete	332
Move From	14
<u>Move To</u>	14
<u>Table Insert</u>	0
Table Delete	0
<u>Table moves to</u>	0
Table moves from	0
Embedded Graphics (Visio, ChemDraw, Images etc.)	0
Embedded Excel	0
Format changes	0
Total Changes:	800

**UNIVERSITY SYSTEM OF MARYLAND
DEFERRED COMPENSATION PLAN AND TRUST**

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**UNIVERSITY SYSTEM OF MARYLAND
DEFERRED COMPENSATION PLAN AND TRUST**

**ARTICLE I.
ESTABLISHMENT AND RESTATEMENT OF PLAN**

Section 1.01. Plan Establishment and History.

(a) The University System of Maryland is a public university system established under Maryland law and an educational organization described in Section 170(b)(1)(A)(ii) of the Internal Revenue Code of 1986, as amended ("Code"). The Board of Regents of the University System of Maryland ("Board") established the University System of Maryland Deferred Compensation Plan and Trust ("Plan") pursuant to Code Section 457(b) and Sections 30-210 et seq. of the State Personnel and Pensions Article of the Annotated Code of Maryland (1978, 2004 Repl. Vol.), to provide eligible employees the opportunity to supplement their retirement benefits through voluntary contributions.

(b) The Plan is, and is intended to remain, ~~a defined contribution~~ an eligible deferred compensation plan under Code Section 457(b). The Plan is a governmental plan within the meaning of Code Section 414(d) and Section 3(32) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). As a governmental plan, ERISA does not apply.

(c) The Plan was most recently amended and restated effective January 1, ~~2006, and has been amended from time to time thereafter~~ 2020.

Section 1.02. Plan Restatement.

(a) The Plan is now being amended and restated effective January 1, ~~2020~~ 2024, except as otherwise specifically provided herein, to ~~incorporate the prior amendments to the Plan and to~~ make certain required and discretionary changes.

(b) Except as otherwise specifically provided herein, the Plan as hereinafter set forth establishes the rights and obligations with respect to individuals who are Employees on and after January 1, ~~2020~~ 2024, and to transactions under the Plan on and after January 1, ~~2020~~ 2024. The rights and benefits, if any, of individuals who are not Employees on or after January 1, ~~2020~~ 2024, shall be determined in accordance with the terms and provisions of the Plan that were in effect on the date of their Severance from Employment, except as otherwise specifically provided herein or in a subsequent amendment.

Section 1.03. Plan Funding. The Plan is funded through one or more Trusts in accordance with the ~~qualification~~ requirements of the Code. The terms and conditions of the Trusts shall be incorporated into this Plan; provided, however, that to the extent that there is any conflict between the terms of the Trusts and the terms of the Plan, the terms of the Plan shall govern, except as otherwise specifically provided herein.

ARTICLE II.
RULES OF CONSTRUCTION AND DEFINITIONS

Section 2.01. Rules of Construction and Governing Law.

(a) This Plan shall be interpreted, enforced, and administered in accordance with the Code and, when not inconsistent with the Code, or expressly provided otherwise herein, the laws of the State of Maryland without regard to conflict of law principles.

(b) Words used herein in the masculine gender shall be construed to include the feminine gender where appropriate, and *vice versa*, and words used herein in the singular or plural shall be construed as being in the plural or singular, where appropriate, and *vice versa*.

(c) The headings and subheadings in the Plan are inserted for convenience of reference only and are not to be considered in the construction of any provision of the Plan.

(d) If any provision of the Plan shall be held to violate the Code or be illegal or invalid for any other reason, that provision shall be deemed to be null and void, but the invalidation of that provision shall not otherwise impair or affect the Plan.

(e) In resolving any conflict between provisions of the Plan and in resolving any other uncertainty as to the meaning or intention of any provision of the Plan, the interpretation that causes the Plan to (i) constitute an eligible [deferred compensation](#) plan under the provisions of Code Section 457 and the Trust to be exempt from tax under Code Section 457, (ii) be a governmental plan as defined in ERISA Section 3(32) and Code Section 414(d), and (iii) comply with all applicable requirements of the Code, shall prevail over any different interpretation.

Section 2.02. Definitions. When the initial letter of a word or phrase is capitalized herein, the meaning of such word or phrase shall be as follows:

(a) "Account" means the separate accounts maintained for each Participant and Beneficiary under the Plan. The following Accounts shall be established for a Participant or Beneficiary, if applicable:

(1) A Pre-Tax Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Pre-Tax Contributions pursuant to [Section 4.01](#).

(2) A Roth Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Roth Contributions pursuant to [Section 4.01](#).

(3) A Rollover Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Rollover Contributions pursuant to [Section 4.03](#).

(4) A Transfer Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to [plan-to-plan transfers pursuant to Section 13.01](#).

(b) ~~(a)~~ "Account Balance" means the bookkeeping account maintained with respect to each Participant which reflects the value of the deferred compensation credited to the Participant, including the Participant's Annual Deferrals, the earnings or loss of the Trust Fund (net of Trust Fund expenses) allocable to the Participant, any transfers for the Participant's benefit, and any

distribution made to the Participant or the Participant's Beneficiary. If a Participant has more than one Beneficiary at the time of the Participant's death, then a separate Account Balance shall be maintained for each Beneficiary. The Account Balance includes any account established ~~under Article XI~~ for Rollover Contributions and ~~Article XII~~ for plan-to-plan transfers made for a Participant, the account established for a Beneficiary after a Participant's death, and any account or accounts established for an alternate payee ~~(as defined in Code Section 414(p)(8))~~.

~~(b) "Account" means the separate accounts maintained for each Participant and Beneficiary under the Plan. The following Accounts shall be established for a Participant or Beneficiary, if applicable:~~

~~(1) A Pre-Tax Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Pre-Tax Contributions pursuant to Article III.~~

~~(2) A Roth Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Roth Contributions pursuant to Article III.~~

~~(3) A Rollover Contribution Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to Rollover Contributions pursuant to Article XI.~~

~~(4) A Transfer Account to reflect the Participant's or Beneficiary's interest under the Plan attributable to transfers pursuant to Article XII.~~

(c) "Administrator" means the Administrative Committee as designated by the Board, or such other person, persons, or entity designated by the Board, to perform the administrative duties and functions under the Plan.

(d) "Allocable Income" means the sum of the allocable gain or loss for the year or partial year determined in accordance with Code Section 457 and the regulations promulgated thereunder.

(e) ~~(d)~~ "Annual Deferrals" mean Pre-Tax Contributions and/or Roth Contributions.

(f) ~~(e)~~ "Applicable Form" means the appropriate form as designated and furnished by the Administrator or Vendor to make an election or provide a notice as required by the Plan. If a written election or consent is not specifically required by the Code, the Administrator or Vendor may prescribe a verbal, electronic, or telephonic instruction form in lieu of or in addition to a written form.

(g) ~~(f)~~ "Beneficiary" means the person, company, trustee, or estate designated by the Participant on the Applicable Form to receive any benefits payable under the Plan in the event of the Participant's death. Except as required by applicable state law, (i) a designation of an individual as a Beneficiary shall remain in effect until affirmatively revoked by the Participant on a subsequent Applicable Form. and (ii), unless otherwise provided in the Trust, if ~~theno~~ designated Beneficiary ~~does not survive~~ survives the Participant or there is no Beneficiary designated, the Participant's surviving Spouse shall be the Beneficiary or, if ~~nonethere is no surviving Spouse~~, the Participant's estate shall be the Beneficiary. Beneficiary also means an alternate payee within the meaning of Code Section 414(p)(8).

(h) ~~(g)~~ "Board" means the Board of Regents of the University System of Maryland.

(i) ~~(h)~~ "Code" means the Internal Revenue Code of 1986, as amended from time to time.

(j) ~~(i)~~ "Compensation" means all cash compensation for services to the Employer, including salary, wages, fees, commissions, bonuses, and overtime pay, which is includible in the Employee's gross income for the calendar year, plus amounts that would be cash compensation for services to the Employer includible in the Employee's gross income for the calendar year but for a compensation reduction election under Code Section 125, 132(f), 401(k), 403(b), or 457(b) (including an election to reduce compensation in order to make Annual Deferrals under the Plan). Compensation does not include amounts "picked up" by the Employer within the meaning of Code Section 414(h). Compensation includes any compensation described in paragraph (1) or (2), provided it is paid by the later of 2½ months after the Employee's Severance from Employment with the Employer or the end of the calendar year in which the Employee has a Severance from Employment with the Employer:

(1) any payment that would have been paid to the Employee prior to a Severance from Employment if the Employee continued in employment with the Employer and that is regular compensation for services during the Employee's regular working hours, compensation for services outside the Employee's regular working hours (such as overtime or shift differential), commissions, bonuses, or other similar payments; and

(2) a payment for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if employment had continued and the payment would be Compensation if paid prior to the Employee's Severance from Employment, and only if the Employee separately elects for such payment to be reduced on his or her Salary Reduction Agreement pursuant to Section 4.01.

Any payment that is not described in paragraph (1) or (2) above is not considered Compensation if paid after Severance from Employment. Thus, for example, Compensation does not include amounts paid after Severance from Employment that are severance pay, or unfunded nonqualified deferred compensation, ~~or parachute payments within the meaning of Code Section 280G(b)(2).~~

(k) "Contributions" mean Pre-Tax Contributions, Roth Contributions, Rollover Contributions, and plan-to-plan transfers.

(l) "Coronavirus-Related Distribution" means a distribution made on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before December 31, 2020, to a Qualified Individual in accordance with Section 9.05.

(m) ~~(j)~~ "Cost of Living Adjustment" means the cost of living adjustment prescribed by the Secretary of the Treasury under Code Section 414(v) or 457(e)(15) for any applicable year.

(n) "Designated Beneficiary" means an individual Beneficiary within the meaning of Code Section 401(a)(9)(E)(i).

(o) ~~(k)~~ "Disabled" ~~or "Disability"~~ means ~~disability~~ disabled within the meaning of Code Section 72(m)(7).

(p) "Eligible Designated Beneficiary" means a Designated Beneficiary who meets the additional criteria under Code Section 401(a)(9)(E)(ii).

(q) ~~(+)~~ "Employee" means ~~each~~ a common law employee of the Employer, including a contingent employee (other than a contractual or a leased employee or an independent contractor) and an employee whose employment is governed by the terms of a collective bargaining agreement between representatives of the employee's bargaining unit and the State of Maryland, and under which retirement benefits were the subject of good faith bargaining, unless the bargaining representatives for the bargaining unit and the Employer have agreed to have the employees in the bargaining unit excluded from participation.

(r) ~~(+)~~ "Employer" means the University System of Maryland and its constituent institutions and centers, which are all governmental entities.

(s) ~~(+)~~ "Former Vendor" means a service provider that was an approved Vendor under the Plan, but that ceases to be an approved Vendor under the Plan, that continues to hold Plan assets.

(t) ~~(+)~~ "HEART" means the Heroes Earnings Assistance and Relief Tax Act of 2008, as amended from time to time.

(u) ~~(+)~~ "Includible Compensation" means all compensation received by an Employee from the University Employer that is includible in his or her gross income for federal income tax purposes (computed without regard to Code Section 911) for that taxable year under Code Section 415(c)(3). Includible Compensation also includes any amounts excludable from taxable income because of an election (including Elective Annual Deferrals under the Plan) under Code Sections 403(b), 457(b), 125, 401(k), or 132(f). Includible Compensation includes compensation paid by ~~the later of~~ 2½ months after the later of an Employee's Severance from Employment or the end of the Plan Year that includes the date of the Employee's Severance from Employment, if:

(1) the payment is regular compensation for services during the Employee's regular working hours, or compensation for services outside the Employee's regular working hours (e.g., overtime or shift differential), commissions, bonuses, or other similar payments and the payment would have been paid to the Employee prior to a Severance from Employment if the Employee had continued in employment with the University Employer;

(2) the payment is for unused accrued bona fide sick, vacation, or other leave, but only if the Employee would have been able to use the leave if the Employee had continued in employment; or

(3) the payment is made to the Employee under a nonqualified unfunded deferred compensation plan, but only if the payment would have been paid to the Employee at the same time if the Employee had continued in employment with the University Employer and only to the extent that the payment is includible in the Employee's gross income.

Includible Compensation does not include any amounts "picked up" by the Employer within the meaning of Code Section 414(h). Includible Compensation is determined without regard to any community property laws.

(v) ~~(q)~~ "Investment Options" mean the investment funds available under the Trust provided by the Vendor(s) and specifically approved by the Administrator, in its sole and absolute discretion, for use under this Plan.

(w) ~~(r)~~ "Normal Retirement Age" means, for a Participant who is a member of:

(1) a State defined benefit retirement system, the age designated by the Participant, but beginning no earlier than the earliest age at which the Participant may retire under the State defined benefit retirement system in which he or she participates and receive immediate retirement benefits (without consent of the State and without actuarial or similar reduction), and ending no later than age 70½; or

(2) the State ~~optional retirement plan~~ of Maryland Optional Retirement Plan, the age designated by the Participant, but beginning no earlier than age 65, and ending no later than age 70½.

Said designation may be amended by the Participant at any time prior to reaching such designated age. If the Participant shall, for any reason, fail to designate a Normal Retirement Age, the Normal Retirement Age shall be age 70½. The Normal Retirement Age specified must be the same for all eligible deferred compensation plans under Code Section 457(b) sponsored by the Employer in which the Participant participates.

(x) ~~(s)~~ "Participant" means any Employee who is or may become eligible to receive a benefit of any type under the Plan. A Participant shall also mean, when appropriate to the context, a former Employee who is eligible to receive a benefit of any type under the Plan.

~~(t) "Participation Agreement" means the Applicable Form signed by the Employee when he or she commences participation in the Plan, any amendment thereto, and any subsequent agreement in which the Participant designates the amount of his or her Annual Deferral, his or her investment selections, his or her designated Normal Retirement Age, his or her date for commencement of benefits, and his or her method of payments of benefits.~~

(y) ~~(u)~~ "Plan" means the University System of Maryland Deferred Compensation Plan and Trust, as amended from time to time.

(z) ~~(v)~~ "Plan Year" means the calendar year.

(aa) ~~(w)~~ "Pre-Tax Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a ~~Participation~~ Salary Reduction Agreement in accordance with ~~Article III~~ Section 4.01.

(bb) ~~(x)~~ "Qualified Distribution" means a distribution from a Roth Contribution Account after the Participant has satisfied a five year ~~tax~~-holding period and has attained age 59½, died, or become Disabled, in accordance with Code Section 402A(d). The five year ~~tax~~-holding period is the period of five consecutive taxable years that begins with the first day of the first taxable year in which the Participant makes a designated Roth Contribution under the Plan or to another retirement plan which amount was directly rolled over to the Plan, and ends when five consecutive taxable years have been completed.

(cc) "Qualified Individual" means a Participant:

- (1) who is diagnosed with the virus SARS-CoV-2 or with coronavirus disease 2019 (COVID-19) by a test approved by the Centers for Disease Control and Prevention;
- (2) whose Spouse or dependent (as defined in Code Section 152) is diagnosed with such virus or disease by such a test; or
- (3) who experiences adverse financial consequences as a result of:
- (i) the Participant, the Participant's Spouse, or a member of the Participant's household (i) being quarantined, (ii) being furloughed or laid off or having work hours reduced due to such virus or disease, (iii) being unable to work due to lack of child care due to such virus or disease, (iv) having a reduction in pay (or self-employment income) due to such virus or disease, or (v) having a job offer rescinded or start date for a job delayed due to such virus or disease;
- (ii) closing or reducing hours of a business owned or operated by the Participant, the Participant's Spouse, or a member of the Participant's household due to such virus or disease; or
- (iii) other factors as determined by the Secretary of the Treasury (or the Secretary's delegate).

For purposes of this paragraph (cc), a member of the Participant's household means someone who shares the Participant's principal residence.

(dd) ~~(y)~~"Related Employer" means any entity which is under common control with the Employer under Code Section 414(b), (c), (m), or (o). The Employer shall determine which entities are Related Employers based on a reasonable, good faith standard and taking into account the special rules applicable under IRS Notice 89-23, 1989-1 C.B. 654.

(ee) ~~(z)~~"Rollover Contribution" means an amount contributed to the Plan pursuant to ~~Article XI~~Section 4.03.

(ff) ~~(aa)~~"Roth Contribution" means a contribution made to the Plan by the Employer at the election of a Participant pursuant to a ~~Participation~~Salary Reduction Agreement in accordance with ~~Article III that~~Section 4.01, where the contribution has been (i) designated irrevocably by the Participant as a Roth Contribution being made in lieu of all or a portion of the Pre-Tax Contribution the Participant is otherwise eligible to make under the Plan, and (ii) treated by the Employer as includible in the Participant's gross income at the time the Participant would have received that amount in cash if the Participant had not made such an election. ~~Roth Contributions shall be available under the Plan as soon as administratively practicable on or after January 1, 2020.~~

(gg) "Salary Reduction Agreement" means an agreement entered into between an Employee and the Employer pursuant to Section 4.01, which may be in electronic or written form. Such agreement shall not be effective with respect to Compensation made available prior to the effective date of such agreement and shall be binding on the parties and irrevocable with respect to Compensation earned while it is in effect.

(hh) ~~(bb)~~ "Section" means, when not preceded by the word Code or ERISA, a section of the Plan.

(ii) ~~(ee)~~ "Severance from Employment" means the ~~date that~~ complete termination of the employment relationship between the Employee ~~dies, retires, or otherwise has a severance from employment with~~ and the Employer, ~~as determined by the Administrator (and taking into account guidance issued under the Code)~~ and any Related Employer. For an Employee on a leave of absence, such separation shall occur when the leave of absence expires if the Employee does not return to service.

(jj) ~~(dd)~~ "Spouse" means the person to whom ~~an Eligible Employee is legally a~~ Participant is married under ~~the~~ federal law ~~of any state~~.

(kk) ~~(ee)~~ "State" means the State of Maryland acting through the Employer which has offered this Plan to its Employees.

~~(ff) "State Pers. & Pens. Art." means the State Personnel and Pensions Article of the Annotated Code of Maryland (1978, 2004 Repl. Vol.).~~

(ll) ~~(gg)~~ "Trust" means a trust that satisfies the requirements of Code Section 457(g), including a custodial account and/or an annuity contract treated as qualified trust under Code Section 401(f) that satisfies the requirements of Code Section 457(g)(3), established under the Plan to hold Plan assets.

(mm) ~~(hh)~~ "Trust Fund" means the assets of the Plan held pursuant to the terms of the Plan and Trust.

(nn) ~~(ii)~~ "Trustee" means the Board; provided, however, that the entity or person(s) designated by the Administrator to hold the assets of a custodial account or hold an annuity contract in accordance with Code Sections 457(g)(3) and 401(f) shall be the custodial Trustee with respect to such assets.

(oo) "Unforeseeable Emergency Distribution" means a distribution made in accordance with Section 9.03 to a Participant on account of an unforeseeable emergency.

(pp) ~~(jj)~~ "USERRA" means the Uniformed Services Employment and Reemployment Rights Act of 1994, as amended from time to time.

(qq) ~~(kk)~~ "Vendor" means the service provider that has been approved by the Administrator to serve as third party administrator and/or recordkeeper for the Plan and/or to offer Investment Options to Participants under the Plan. The Vendor(s) are listed in Appendix A, as modified from time to time in the Administrator's sole and absolute discretion. A modification of Appendix A is not an amendment of the Plan.

(rr) ~~(H)~~ "Vest" or "Vested" means the interest of the Participant or Beneficiary in his or her Account that is unconditional, legally enforceable, and nonforfeitable.

ARTICLE III. PARTICIPATION

Section 3.01. Participation. An Employee may become a Participant in the Plan ~~for purposes of Annual Deferrals or Rollover Contributions~~ immediately after commencement of employment with the Employer. Participation in the Plan is voluntary.

Section 3.02. Notice and Enrollment.

(a) The Employer shall notify an Employee when he or she is eligible to participate in the Plan for purposes of Annual Deferrals.

(b) An Employee must complete the enrollment process and make investment elections with the Vendor on the Applicable Form, including a Salary Reduction Agreement for purposes of Annual Deferrals, to become a Participant in the Plan. An Employee who fails to complete the enrollment process and make investment elections with the Vendor on the Applicable Form shall be deemed to have waived all of his or her rights under the Plan, provided that such Employee may become a Participant in the Plan at any time thereafter by completing the enrollment process and making investment elections with the Vendor on the Applicable Form.

Section 3.03. Cessation of Contributions. A Participant shall cease to be eligible for Contributions under the Plan when he or she is no longer an Employee.

Section 3.04. Cessation of Participation. A Participant ~~shall cease to be a Participant on the distribution of his or her entire interest in the Plan.~~

Section 3.05. Reemployment. A former Participant who is reemployed by the Employer shall immediately become a Participant in this Plan as of his or her date of rehire as an Employee.

ARTICLE IV. CONTRIBUTIONS

Section 4.01. Annual Deferrals.

(a) Subject to the limitations under Article V, an Employee who has satisfied the participation requirements under Section 3.01 may enter into a written Salary Reduction Agreement with the Employer agreeing to contribute each pay period Pre-Tax Contributions and/or Roth Contributions to the Plan.

(b) Pre-Tax Contributions and Roth Contributions shall begin as soon as administratively practicable following the date specified in the Salary Reduction Agreement, or, if later or if no date is specified, as soon as administratively practicable after the Salary Reduction Agreement is filed with the Administrator or the Vendor, as applicable. Notwithstanding the preceding, prior to January 1, 2025, the Salary Reduction Agreement shall become effective no earlier than the first day of the month following the month in which the Salary Reduction Agreement is executed and submitted to the Administrator or the Vendor, as applicable; provided, however, that a new Employee may defer Compensation payable in the calendar month during which he or she first becomes an Employee if he or she enters into a Salary Reduction Agreement before the first day on which he or she performs services for the Employer.

(c) Pre-Tax Contributions and/or Roth Contributions shall reduce the Compensation otherwise payable to a Participant and shall be paid in cash to the Vendor by the Employer, on a basis consistent with its payroll practices, as soon as administratively feasible after being withheld from the Compensation of a Participant, but no later than 15 business days following the end of the month in which such amount is withheld from the Compensation of the Participant.

~~(d) **Election Required for Participation.** An Employee may elect to become a Participant by executing an election to defer a portion of his or her Compensation (and have that amount contributed as a Pre-Tax Contribution and/or Roth Contribution on his or her behalf) and filing it with the Administrator. This participation election shall be made on the Participant Agreement provided by the Administrator under which the Employee agrees to be bound by all the terms and conditions of the Plan. If the Employee~~If the Participant fails to designate whether Annual Deferrals are Pre-Tax Contributions or Roth Contributions, the ~~Employee~~Participant will be deemed to have designated his or her Annual Deferrals as Pre-Tax Contributions. ~~The Administrator may establish a minimum deferral amount, and may change such minimums from time to time. The participation election shall also include designation of Investment Options and designation of a Beneficiary. Any such election~~Pre-Tax Contributions shall be allocated to the Pre-Tax Contribution Account of the Participant as of the date of contribution. Roth Contributions shall be allocated to the Roth Contribution Account of the Participant as of the date of contribution.

~~(e) **Section 3.02.** A Salary Reduction Agreement shall remain in effect until a new election is filed on the Applicable Form~~superseded by another election or until the Administrator requires a Participant to complete a new Salary Reduction Agreement on a uniform and nondiscriminatory basis.

~~**Section 3.03. Commencement of Participation.** An Employee shall become a Participant as soon as administratively practicable following the date the Employee files a Participation Agreement pursuant to Section 3.02, or upon establishing a Rollover Contribution Account as described in Article XI of the Plan, as applicable. An election pursuant to Section 3.02 shall become effective no earlier than the calendar month following the month in which the election is made. A new Employee may defer Compensation payable in the calendar month during which the Participant first becomes an Employee if a Participation Agreement providing for the deferral is entered into on or before the first day on which the Participant performs services for the Employer.~~

(1) A Participant may change his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing a new Salary Reduction Agreement with the Administrator or the Vendor, as applicable. Any such changes shall be effective as soon as administratively practicable following the date specified in the new Salary Reduction Agreement, or, if later, as soon as administratively practicable after the Salary Reduction Agreement is filed; provided that, prior to January 1, 2025, the Salary Reduction Agreement shall become effective no earlier than the first day of the month following the month in which the Salary Reduction Agreement is executed and submitted to the Administrator.

(2) A Participant may terminate his or her election to make Pre-Tax Contributions and/or Roth Contributions at any time by filing the Applicable Form with the Administrator or the Vendor, as applicable, which shall be effective as soon as administratively practicable after the Applicable Form is filed.

(f) An election to make Pre-Tax Contributions and/or Roth Contributions shall not be valid with respect to any period during which the Participant is not an Employee. No election to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions shall be given retroactive effect.

(g) The Administrator may establish additional nondiscriminatory rules and procedures governing the manner and timing of elections by Participants to make, change, or discontinue Pre-Tax Contributions and/or Roth Contributions.

Section 4.02. Deferrals of Sick, Vacation, and Back-Pay.

(a) ~~Section 3.04. Deferrals of Sick, Vacation, and Back-Pay.~~ A Participant who has not had a Severance from Employment may elect to defer accumulated sick pay, accumulated vacation pay, and back-pay to the Plan if the requirements of Code Section 457(b) are satisfied and if permitted by Board policy and Maryland State law. These amounts may be deferred ~~for any calendar month~~ only if a Participation Salary Reduction Agreement providing for the Annual Deferral is entered into before the ~~beginning of the month in which the~~ amounts would otherwise be paid or made available and the Participant is an Employee on the date the amounts would otherwise be paid or made available; provided that, prior to January 1, 2025, the Salary Reduction Agreement must be entered into before the beginning of the month in which the amounts would otherwise be paid or be made available. Compensation that would otherwise be paid for a payroll period that begins before Severance from Employment is treated as an amount that would otherwise be paid or made available before an Employee has a Severance from Employment.

(b) In addition, Annual Deferrals may be made for former Employees with respect to Compensation paid after an Employee has a Severance from Employment ~~as described in Section 2.02(i) of the Plan.~~

~~Section 3.05. Information Provided by the Participant. Each Employee enrolling in the Plan should provide to the Administrator at the time of initial enrollment, and later if there are any changes, any information necessary or advisable for the Administrator to administer the Plan, including, without limitation, whether the Employee is a participant in any other eligible plan under Code Section 457(b).~~

~~Section 3.06. Contributions Made Promptly. Annual Deferrals by the Participant ~~under the Plan shall be~~ transferred to the Vendors within a period that is not longer than is reasonable for the proper administration of the Participant's Account Balance. For this purpose, Annual Deferrals shall be treated as contributed within a period that is not longer than is reasonable for the proper administration if the contribution is made to the Trust Fund within ~~15 business days following the end of the month in which~~ the amount would otherwise have been paid to the Participant.~~

~~Section 3.07. Amendment of Participation Election. Subject to other provisions of the Plan, a Participant may at any time revise his or her Participation Agreement, including a change of the amount of his or her Annual Deferrals, his or her Investment Options, and his or her designated Beneficiary on the Applicable Form in accordance with procedures established by the Administrator. Unless the election specifies a later effective date, a change in the amount of the Annual Deferrals shall take effect as of the first day of the next following month ~~or as soon as administratively practicable~~ if later. A change in the Investment Option shall take effect as of the date provided by the Vendor on a uniform basis for all Employees. A change in the Beneficiary~~

~~designation shall take effect when the election is accepted by the Vendor. The Participant may revoke his or her election to participate in the Plan by signing and filing with the Administrator (or such other entity as is designated by the Administrator) a written revocation on the Applicable Form and in the procedural manner approved by the Administrator. Any such revocation shall be effective prospectively only.~~

Section 4.03. Rollover Contributions to the Plan.

(a) Subject to the Trust, Participants (prior to January 1, 2025, Participants who are Employees only) may transfer to the Plan as a Rollover Contribution a distribution from a Code Section 401(a) (including 401(k)) or 403(a) qualified plan (excluding after-tax contributions), a Code Section 403(b) plan (excluding after-tax contributions), a Code Section 408 individual retirement account or annuity, a SIMPLE IRA described in Code Section 408(p)(1) provided that the Rollover Contribution is made after the two year period described in Code Section 72(t)(6), or a Code Section 457(b) eligible deferred compensation plan which is maintained by an eligible employer described in Code Section 457(e)(1)(A). Any Rollover Contribution (i) shall be subject to the Vendor's determination, in its discretion, that the Rollover Contribution satisfies all applicable requirements of the Code and (ii) shall be made directly from such prior plan, or if such amount was distributed to the Participant, such Rollover Contribution shall be made within 60 days after the Participant receives the rollover amount, unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance.

(b) The Vendor shall establish and maintain for the Participant a separate account for any Rollover Contribution paid to the Plan from any eligible retirement plan that is not an eligible governmental plan under Code Section 457(b). In addition, the Vendor shall establish and maintain for the Participant a separate account for any Rollover Contribution paid to the Plan from any eligible retirement plan that is an eligible governmental plan under Code Section 457(b).

(c) The Plan shall accept a Rollover Contribution only if it is a direct rollover from a designated Roth account under an applicable retirement plan described in Code Section 402A(e)(1) and only to the extent the rollover is permitted under the rules of Code Section 402(c). A Rollover Contribution that includes a designated Roth account shall only be accepted if the Administrator obtains information regarding the Participant's tax basis under Code Section 72 in the amount rolled over and the first day of the Participant's taxable year in which the Participant first had Roth contributions made to such other designated Roth account.

(d) A Rollover Contribution shall be allocated to the Rollover Contribution Account of the Participant as of the date of the contribution. A Rollover Contribution from a designated Roth account shall be allocated to a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions as of the date of the contribution. Before a Rollover Contribution is made, the Participant shall designate on the Applicable Form the Investment Options in which the Vendor should invest the Participant's Rollover Contribution.

Section 4.04. In-Plan Roth Rollovers.

(a) Any portion or all of a Participant's Vested Account (other than a Roth Contribution Account or a subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon) is eligible for direct rollover to the Participant's Roth

Contribution Account under the Plan, even if the Vested Account is not otherwise distributable (pursuant to Code Section 402A(c)(4)(E)) under Article IX of the Plan, and the transfer shall be treated as a qualified rollover contribution (within the meaning of Code Section 408A(e)) to the Participant's Roth Contribution Account.

(b) A Participant's election under this Section 4.04 shall be subject to the reasonable administrative procedures established by the Administrator, Code Section 402A(c)(4) and the regulations thereunder, and subsequent guidance from the Internal Revenue Service.

(c) The taxable portion of the Participant's Account directly rolled over to a Roth Contribution Account under this Section 4.04 shall be included in the Participant's gross income in the tax year in which the transfer occurs.

(d) To the extent required by Code Section 402(f), the Administrator shall provide written information regarding in-Plan Roth rollovers under this Section 4.04, for amounts that are otherwise distributable under Article IX.

~~**Section 4.05. Section 3.08. Leave of Absence or Sabbatical.** Unless an election is otherwise revised, if a Participant is absent from work by During a paid leave of absence ~~or sabbatical, Annual Deferrals under the Plan, Pre-Tax Contributions and/or Roth Contributions~~ shall continue to ~~the extent that~~ be made for a Participant on the basis of Compensation continues: paid by the Employer during the leave. No Contributions shall be made during an unpaid leave of absence.~~

~~**Section 3.09. Disability.** A Disabled Participant may elect Annual Deferrals during any portion of the period of his or her Disability to the extent that he or she has actual Compensation (not imputed Compensation and not disability benefits) from which to make contributions to the Plan and has not had a Severance from Employment.~~

~~**Section 3.10. Cessation of Plan Participation.** An Employee shall cease to be a Participant on the distribution of the Employee's entire interest in the Plan.~~

~~**Section 3.11. Vesting Standards.** A Participant shall be 100% Vested in the Participant's Accounts.~~

~~**Section 4.06. Section 3.12. Plan Expenses.** All reasonable expenses of administering the individual Accounts in the Plan will~~ shall be charged against and paid from the ~~Participants' Accounts.~~ Participant's Accounts, subject to the terms of the Trust, unless paid by the Employer. The Administrator shall have the right to allocate expenses associated with maintaining the Accounts of terminated Employees to such Accounts, even if no expenses are allocated to the Accounts of active Employees, in accordance with rules promulgated by the Internal Revenue Service.

~~ARTICLE V.~~ ARTICLE IV.

~~LIMITATIONS ON AMOUNTS DEFERRED~~ CONTRIBUTIONS

Section 5.01. Annual Deferral Limits.

(a) ~~Section 4.01. Basic Annual Limitation.~~ The maximum amount of Annual Deferrals to the Plan for any calendar year shall be limited to the lesser of (i) the applicable dollar

amount as provided in Code Section 457(e)(15) increased by the Cost of Living Adjustment in effect for such calendar year or (ii) the Participant's Includible Compensation as provided in Code Section 457(b)(2). ~~The applicable dollar amount is \$19,500 for 2020, increased thereafter by the Cost of Living Adjustment.~~

~~(b) **Section 4.02. Age 50 Catch-up Annual Deferral Contributions.**~~—A Participant who ~~attains~~will attain age 50 or more by the end of the calendar year, and who is contributing up to the applicable dollar amount under ~~Section 4.01~~paragraph (a), may make additional Annual Deferrals up to the applicable dollar amount under Code Section 414(v) ~~of up to \$6,500 for 2020,~~ as increased thereafter by the Cost of Living Adjustment in effect for such calendar year. Effective January 1, 2025, the adjusted dollar amount under Code Section 414(v)(2)(E), as increased by the Cost of Living Adjustment in effect for such calendar year, shall apply to Participants who will attain age 60 but will not attain age 64 by the end of the calendar year.

~~(c) **Section 4.03. Special Section 457 Catch-up Limitation.**~~—If the applicable year is one of a Participant's last three calendar years ending before the year in which the Participant attains Normal Retirement Age and the amount determined under this ~~Section~~paragraph (c) exceeds the amount computed under ~~Sections 4.01~~paragraphs (a) and 4.02(b), then the Annual Deferral limit under this Article ~~IV~~V shall be the lesser of:

(1) ~~(a)~~—An amount equal to two times the applicable dollar amount under ~~Section 4.01~~paragraph (a) for such year; or

(2) ~~(b)~~—The sum of:

(i) ~~(1)~~—An amount equal to (A) the aggregate ~~Section 4.01~~ limit under paragraph (a) for the current calendar year plus each prior calendar year beginning after December 31, 2001, during which the Participant was an Employee under the Plan, minus (B) the aggregate amount of Compensation that the Participant deferred under the Plan during such years, plus

(ii) ~~(2)~~—An amount equal to (A) the aggregate limit referred to in Code Section 457(b)(2) for each prior calendar year beginning after December 31, 1978, and before January 1, 2002, during which the Participant was an Employee (determined without regard to ~~Sections 4.02 and 4.03~~paragraphs (b) or (c)), minus (B) the aggregate contributions to Pre-2002 Coordination Plans (as defined by Treasury Regulations and provided in Section 5.02(c)) for such years.

However, in no event can the ~~deferred amount under this Section 4.03~~Annual Deferrals be more than the Participant's Compensation for the year. A Participant may not have more than one Normal Retirement Age under the Plan.

~~**Section 4.04. Special Rules.** For purposes of this Article IV, the following rules shall apply:~~

Section 5.02. Coordination of Limits.

(a) ~~**Participant Covered By More Than One Eligible Plan.**~~—If the Participant is or has been a participant in one or more other eligible plans within the meaning of Code Section 457(b), then this Plan and all such other plans shall be considered as one plan for purposes of applying the

foregoing limitations of this Article ~~IV~~V. For this purpose, the Administrator shall take into account any other such eligible plan maintained by the Employer and shall also take into account any other such eligible plan for which the Administrator receives from the Participant sufficient information concerning his or her participation in such other plan.

(b) ~~Pre-Participation Years.~~ In applying Section ~~4.03~~5.02, a year shall be taken into account only if (i) the Participant was eligible to participate in the Plan during all or a portion of the year and (ii) Compensation deferred, if any, under the Plan during the year was subject to the ~~Basic Annual Limitation~~applicable dollar amount described in Section ~~4.01~~5.01(a) or any other plan ceiling required by Code Section 457(b).

(c) ~~Pre-2002 Coordination Years.~~ For purposes of Section ~~4.03~~5.01(b)(2)(ii)(B), "contributions to Pre-2002 Coordination Plans" means any employer contribution, salary reduction, or elective contribution under any other eligible Code Section 457(b) plan, or a salary reduction or elective contribution under any Code Section 401(k) qualified cash or deferred arrangement, Code Section 402(h)(1)(B) simplified employee pension (SARSEP), Code Section 403(b) annuity contract, and Code Section 408(p) simple retirement account, or under any plan for which a deduction is allowed because of a contribution to an organization described in Code Section 501(c)(18), including plans, arrangements or accounts maintained by the Employer or any employer for whom the Participant performed services. However, the contributions for any calendar year are only taken into account for purposes of Section ~~4.03~~5.01(b)(2)(ii)(B) to the extent that the total of such contributions does not exceed the aggregate limit referred to in Code Section 457(b)(2) for that year.

(d) For 2002 and thereafter, any amounts contributed by the Participant to a tax-sheltered annuity pursuant to Code Section 403(b) or to a 401(k) plan pursuant to Code Section 402(e)(3) shall not reduce the maximum Annual Deferrals under Section 5.01.

(e) An individual is treated as not having deferred compensation under a plan for a prior taxable year to the extent excess deferrals under the plan are distributed, as described in Section 5.03. To the extent that the combined deferrals for pre-2002 years exceeded the maximum deferral limitations, the amount is treated as an excess deferral for those prior years.

(f) The Participant is responsible for ensuring coordination of these limits.

Section 5.03. ~~Section 4.05.~~ **Correction of Excess Annual Deferrals.** If the Annual Deferral on behalf of a Participant for any calendar year exceeds the limitations described under this Article ~~IV~~V, or the Annual Deferral on behalf of a Participant for any calendar year exceeds the limitations described under this Article ~~IV~~V when combined with other amounts deferred by the Participant under another eligible deferred compensation plan under Code Section 457(b) for which the Participant provides information that is accepted by the Administrator, then the Annual Deferral, to the extent in excess of the applicable limitation (~~and adjusted for any income or loss in value, if any, allocable thereto~~), Allocable Income shall be distributed to the Participant as soon as administratively practicable. Subject to the terms of the Trust, if a Participant who made both Pre-Tax Contributions and Roth Contributions for a calendar year has excess amounts for that year, the excess Annual Deferrals will be distributed out of the Roth Contribution Account unless the Participant elects to instead have the excess Annual Deferrals distributed out of the Pre-Tax Contribution Account.

~~**Section 4.06. Disregard Excess Deferrals.** For purposes of Sections 4.01, 4.02, and 4.03, an individual is treated as not having deferred compensation under a plan for a prior taxable year to the extent excess deferrals under the plan are distributed, as described in Section 4.05. To the extent that the combined deferrals for pre-2002 years exceeded the maximum deferral limitations, the amount is treated as an excess deferral for those prior years.~~

~~ARTICLE VI~~ ARTICLE V.
ACCOUNTS AND REPORTS ~~ACCOUNTING~~

~~**Section 6.01.** **Section 5.01. Participant Accounts.** The Vendor shall maintain a Pre-Tax Contribution Account and/or Roth Contribution Account with respect to each Participant. Pre-Tax Contributions shall be credited to the Pre-Tax Contribution Account of the Participant each payroll period. Roth Contributions shall be credited to the Roth Contribution Account of the Participant each payroll period. In addition, a Rollover Contribution Account shall also be maintained for any Participant making rollover contributions to the Plan pursuant to Article XI, and a Transfer Account shall also be maintained for any Participant making transfers to the Plan pursuant to Article XII. The balance of such Accounts shall be adjusted daily to reflect any distribution to the Participant and all interest, dividends, account charges and changes of market value resulting from the investment of the Participant's Accounts. (s) shall establish and maintain adequate records to reflect the Accounts of each Participant and Beneficiary. Credits and charges shall be made to such Accounts to reflect additions, distributions, and withdrawals, and to reflect gains or losses pursuant to the terms of the Trust. The maintenance of individual Accounts is for accounting purposes only, and a segregation of Plan assets to each Account shall not be required.~~

~~**Section 5.02. Records.** The records of each Participant's Account shall be maintained by each Vendor.~~

~~**Section 6.02.** **Section 5.03. Participant Statements.** Statements of each Participant's Account shall be furnished by the The Vendor(s) shall provide to each Participant at least annually, within 90 days after a quarterly statement reflecting the value of the Participant's Account as of the end of each calendar year (or such other time as is designated by quarter, and shall provide similar information to the Administrator), and at such more frequent intervals as is determined by the Administrator. The Vendor may use the Internet or other electronic means of communication to provide statements, if done through secure means. Participant reports shall be deemed to have been accepted by the Participant as correct unless written notice to the contrary is received by the Vendor within 60 days after the mailing or distribution of a report to the Participant. upon its request.~~

~~**Section 6.03.** **Value of Account.** The value of the Account of a Participant as of any valuation date is the value of the Account Balance as determined by the Vendor. The valuation date shall be the last day of the Plan Year and each other date designated by the Administrator or Vendor in a uniform and nondiscriminatory manner. All transactions and Account records shall be based on fair market value.~~

~~**Section 5.04. Year End Reports.** Within 90 days after the end of each Plan Year, a written report shall be prepared by each Vendor and delivered to the Administrator showing the assets held under the Plan, a schedule of all receipts and disbursements and all material transactions of the Plan during the preceding year. This report shall be in a form and shall contain other~~

~~information as the Administrator requires. Such reports shall be maintained on file by the Administrator.~~

~~**Section 5.05. Inspections.** The Administrator's or its designee's records pertaining to a Participant's Account, shall be open to inspection by appointment during normal business hours by a Participant, or his or her designated representative. However, no Participant may review any record specifically relating to any other Participant.~~

ARTICLE VI. VALUATION OF ACCOUNTS

~~**Section 6.01. Valuation of Accounts.** Each Participant's Account in the Plan and Trust shall be equal in value to the Participant's amount credited to the Account, plus (i) income earned and market gains for the Account under the Participant's investment selection, less (ii) market losses for the Account, and expenses and charges to such Account under the Participant's particular investment selection and less (iii) assessments and charges made against the Participant's Account by the Vendor, Administrator, or the Trustee for the expenses of the Plan.~~

~~**Section 6.02. Valuation and Book Value.** All interest, dividends, charges for premiums and changes in value due to market fluctuations, or charges or expenses of administration shall be credited or debited to the Participant's Accounts as they occur. All Accounts shall be valued every business day, except in cases where the Administrator authorizes a different valuation method. All reports to the Participant shall be based on fair market value as of the reporting date, except that: (i) investments or investment pools that are measured by daily income accruals and fair or book value of the contracts contained therein shall be valued in that manner, and shall not require independent appraisals of value, and; (ii) the Vendor, in cases where the marketability of an investment has been suspended at a time when value must be determined, may make such reasonable estimates of value of all accounts within such particular Investment Option as is necessary to determine the value of any interest therein.~~

~~**Section 6.03. Deposits.** In all cases, deposits of deferrals shall be treated as actually made only as of the date the funds are accepted as in good order by the Vendor.~~

ARTICLE VII. DECLARATION OF TRUST

Section 7.01. The Trust. Each Participant in the Plan shall have Accounts within the Trust Fund created by the Administrator under Article V. The Administrator may designate those individuals or institutions who shall act as custodial trustees under this Plan from time to time, and execute such further agreements with them as the Administrator shall deem necessary. The Administrator may designate more than one institution to act as custodial trustee, or may create sub-trusts. To the extent permitted by federal tax law, custodial accounts and annuity contracts may serve as trusts and the Administrator may use such combination of trusts and custodial accounts and annuity contracts to hold Plan assets as it shall see fit. Any reference to the Trust Fund shall include such custodial accounts or annuity contracts unless the context clearly indicates to the contrary. As further described in this Article, each Plan Account, and the Trust Fund as a whole, shall be held in trust for the exclusive benefit of Participants and their Beneficiaries, under the requirements of Code Section 457(g), and the State ~~Pers. & Pens. Art~~ Personnel and Pensions Article of the Annotated Code of Maryland (1978, 2004 Repl. Vol.). This Declaration of Trust

shall apply to all future contributions and earnings of the Plan and Trust. This Declaration of Trust shall not be interpreted as prohibiting the use of Plan assets to pay fees and other expenses incurred in the maintenance, administration and investment of the Trust Fund, custodial accounts, or annuity contracts, or the Participant's share of Plan administration expense.

Section 7.02. Identification of Trust Assets. All assets of the Plan shall be held in trust or in custodial or annuity contracts as described herein by the Trustees for the exclusive benefit of Participants and their Beneficiaries. Such Trust Fund, and the investments, accounts, contracts, securities and other intangible property and rights that make up the Trust Fund and Plan assets, shall be sufficiently identified by the Trustees and any custodial trustees so that its status as Trust property, or Plan contracts and the individual interests therein, can always be determined. The Trustees shall take all reasonable and necessary steps to execute any documents necessary to effect such trust status or insurance company contract status for existing or future Plan assets.

Section 7.03. Fiduciary Status and Delegation of Duties. The Board is a fiduciary of Plan assets, custodial accounts, or annuity contracts only to the extent required by applicable provision of the Annotated Code of Maryland or the Code. The assumption of fiduciary status by the Board hereunder shall not extend to, or create, any liability or duty to a Participant with respect to the Investment Options offered for Participant selection. No provision of this Plan shall be construed in any manner that would be inconsistent with the duties and responsibilities specified herein. The Board, as an entity, may: (a) allocate duties and responsibilities under this Plan to one or more of its members; (b) designate one or more persons or entities in their employ to perform such duties and responsibilities; and (c) determine any matter with respect to this Plan by a majority vote of those individuals then constituting the Board.

Section 7.04. Unclaimed Benefit Payments. If any check or share certificate in payment of a benefit hereunder, which has been mailed by regular United States first-class mail to the last address of the payee furnished to the Vendors by the Administrator or the Participant or Beneficiary, is returned unclaimed, the Vendors shall follow such procedures regarding unclaimed benefit payments that the Administrator has established.

Section 7.05. Duty to Furnish Information. Both the Administrator and the Vendors shall furnish to each other any document, report, return, statement or other information that the other reasonably deems necessary to perform duties imposed under this Plan and Trust or otherwise imposed by law.

Section 7.06. Deposits And Disbursements From The Trust.

(a) ~~**Trust Deposits.**~~ The Board, acting through the Administrator, shall delegate to the Vendors the responsibility for accepting deposits to this Plan and Trust.

(b) ~~**Trust Payments.**~~ The Board, acting through the Administrator, shall delegate to the Vendors the responsibility for making payments from the Trust. The Vendors shall make payments from the Trust to Participants, their Beneficiaries and such other persons as the Plan may provide for from time to time. Such payments shall be made in such manner, in such amounts and for such purposes, including the payment of Plan benefits and the payment of expenses of administration of the Plan, as may be specified in the Plan. The Vendors shall ensure that any payment directed under this Section conforms to the provisions of this Plan and Trust and the provisions of any applicable law. Payments from the Trust shall be made by check (or the check

of an agent) or deposit to the order of the payee. Payments or other distributions hereunder may be mailed to the payee at the address last furnished to the Vendors by the Administrator. The Vendors shall not incur any liability or other damage on account of any payment or other distribution made by the Trust in accordance with this Section.

(c) ~~**Allocation of Trust Expenses.**~~ All expenses of the Trust shall be paid from the Trust to the extent not paid by the Employer. All expenses of the Trust which are allocable to a particular Investment Option or Account may be allocated and charged to such Investment Option or Account as determined by the Trustees. All expenses of the Trust which are not allocable to a particular Investment Option or Account shall be charged to each such Investment Option or Account in proportion to the value of such Investment Options and Accounts as of the close of business of the immediately preceding valuation date.

Section 7.07. Resignation And Removal Of Trustees. Any custodial trustee may resign at any time in writing to the Administrator. Any custodial trustee may be removed by the Administrator. Upon such resignation or removal, a successor trustee shall be appointed by the Administrator, and shall have the same powers and duties as those conferred upon the custodial trustees hereunder.

Section 7.08. No Guarantees. Neither the Board nor the Administrator guarantees the Trust from loss or depreciation or the payment of any amount which may become due to any person under this Plan and Trust.

Section 7.09. Parties Bound. This Plan and Trust shall be binding upon the parties hereto, all Participants in this Plan and Trust and persons claiming under or through them pursuant to this Plan and Trust, and, as the case may be, the heirs, executors, administrators, successors and assigns of each of them.

Section 7.10. Exclusive Benefit Rule. An Annual Deferral shall be delivered by the State to the Vendor who shall hold such amounts in trust for the exclusive benefit of Participant and Beneficiaries, to be paid by the Vendor, to the Participant pursuant to Article V.

ARTICLE VIII. **INVESTMENT OF ACCOUNTS**

~~**Section 8.01. Investment Options.** The Administrator shall determine from time to time the permitted Investment Options of the Trust that are available for selection by Participants and Beneficiaries, who shall select among those options for the investment of their Account Balance. These options may include securities (debt or equity), mutual funds and/or regulated investment companies, annuity contracts, investment contracts, real estate investment trusts, investment pools, bonds, and any other investment, including collective investment vehicles (whether or not such collective investment vehicles are generally available to the public) and such other investments as are permitted by statute. The Administrator may also invest in, or arrange for investment in, qualifying custodial accounts and contracts as permitted by Code Section 457(g)(3). In each case, however, regardless of the type of investment, it is the intention of this Plan that the individual interest of each Participant and Beneficiary within this Plan and Trust shall always be capable of identification. The Administrator shall at all times create and administer the Plan and the investments of the Plan in accordance with requirements of the State Pers. & Pens. Art., and shall only use such designated company or companies as allowed by Section 30-210 of that Article, or~~

~~successor provision of similar import. The Vendor shall transfer to each such Investment Option such portion of the assets of the Trust as directed by Participants and Beneficiaries. The Vendor shall manage, acquire, or dispose of the assets in an Investment Option in accordance with the specific investment directions given by the Participants. All income received with respect to, and all proceeds received from, the disposition of property held in an Investment Option shall be credited to, and reinvested in, such Investment Option. From time to time, the Administrator may eliminate an Investment Option, and the proceeds thereof shall be reinvested in another Investment Option in accordance with the directions of the Administrator.~~

Section 8.01. ~~Section 8.02. Participant~~ Vendors and Investment Options.

~~(a) Change of Investment Options. The Participant may change the Investment Options he or she has selected for his or her Account Balance, or a portion of his or her Account Balance, by amending his or her Participation Agreement, and filing such amendment with the Administrator. Such amendment shall become effective only under such terms and conditions as are set by the Administrator, and at such time as the Vendor is able to change any Account Balance maintained by it for the Participant's benefit under the existing Investment Options previously chosen by the Participant, to the new Investment Options selected by the Participant in his or her amended Participation Agreement. Such amendments to the Participation Agreement may be made through electronic means under regular and secure procedures established therefore.~~

(a) All Contributions under the Plan shall be transferred to the Vendor(s) to be held, managed, invested and distributed in accordance with the provisions of the Plan and the Trust as applicable. All benefits under the Plan shall be distributed solely from the Trust, and the Employer shall have no liability for any such benefits other than the obligation to make Contributions as provided in the Plan.

~~(b) Conditions for Change of Participants' Accounts shall be invested in one or more of the Investment Options available to Participants under this Plan, as selected by the Administrator and communicated to Participants. The Administrator's current selection of Vendor(s) and Investment Options is not intended to limit future additions or deletions of Vendor(s) or Investment Options. Amendments to the Participation Agreement, for purposes of changing an Employee's Investment Option selection for his or her Account Balance, may be made on the Applicable Form at such times and under such conditions as may be determined from time to time by the Administrator during the Plan Year.~~

(c) A Participant shall have the right to direct the investment of his or her Accounts by filing the Applicable Form with the Vendor(s). A Participant may change his or her investment election as often as determined by the Vendor(s). A Participant may elect to transfer all or any portion of his or her Accounts invested in any one Investment Option to another Investment Option, regardless of whether offered by the same or a different Vendor, subject to the limitations of the Trust, by filing a request on the Applicable Form with the Vendor(s) or by such other means that may be provided for by the Vendor(s). A Participant may also elect to transfer all or any portion of his or her Accounts invested with a Former Vendor to an Investment Option with a Vendor, subject to the terms of the Trust. In no event, however, may a Participant transfer any portion of his or her Accounts invested with a Former Vendor, or any other vendor that is not approved to receive Contributions under the Plan, to an Investment Option with a Vendor.

Section 8.02. Exclusive Benefit. ~~The Trust shall provide for it to be impossible, prior to the satisfaction of all liabilities with respect to Participants and their Beneficiaries, for any part of the assets and income of the Trust to be used for, or diverted to, purposes other than for the exclusive benefit of Participants and Beneficiaries.~~

Section 8.03. Default Investments. ~~If a Participant does not have a valid and complete investment direction on file with the Vendor on the Applicable Form, Contributions will be invested in a default Investment Option selected by the Administrator in its sole and absolute discretion, until the Participant makes an affirmative election regarding the investment of his or her Account.~~

~~(c) **Administrator's Right to Select Investment Options.** The Administrator may, without consent of any Participant whose Investment Option selection may be affected, restrict or terminate the right to change an Investment Option selection for all Participants, or class of Participants. Such change, reduction or termination shall be made in accordance with applicable provisions of the State Pers. & Pens. Art. The maintenance by the Administrator or Vendor of electronic or automated methods of Investment Option selection, or of methods that permit daily change in Investment Option selection, shall not constitute a guarantee against any loss in value that may accrue through temporary inability to change such selection through use of such methods.~~

~~**Section 8.03. Beneficiary Investment Options.** A Beneficiary of a deceased Participant shall have the same rights as a Participant to elect a change of Investment Option selection.~~

~~**Section 8.04. Investment Default.** In the event that a Participant does not have a valid investment direction on file for any portion of the amount in that Participant's Account, the Account shall be invested in any default option or options as determined by the Administrator. In such event, the Participant shall be deemed to have directed that option (or options) for investment of his or her Account. The Administrator intends to establish one or more default Investment Options based upon various factors, including, but not limited to, market risk, stability and rate of return. If the Administrator has appropriately exercised its fiduciary duty in selecting a default option(s), it shall have no liability for any loss sustained by a Participant or Beneficiary whose Account is invested in the default option(s).~~

ARTICLE IX.

BENEFITS DISTRIBUTIONS

Section 9.01. Benefit Payments Commencement of Distributions.

(a) ~~**Distributable Events.**~~ A Participant or, if applicable, a Beneficiary, shall be eligible to receive a distribution of his or her Vested Account under the Plan ~~upon if the Participant's~~ Participant:

- (1) ~~has a~~ Severance from Employment;
- (2) ~~death~~ dies;
- (3) ~~attainment of~~ attains age 70½; or [Change to 59 ½?]

(4) ~~unforeseeable emergency, as described in Section 9.09~~ qualifies for an Unforeseeable Emergency Distribution, a small account distribution, or Coronavirus-Related Distribution.

~~(b) Severance from Employment. Upon Severance from Employment, a Participant is entitled to receive a distribution of his or her Accounts under any form of distribution permitted under Section 9.02, subject to Section 9.04, commencing on a date selected by the Participant which may not be later than the required distribution date of Code Section 401(a)(9), as specified in Section 9.04. A Participant may elect to change the commencement date of distribution of the Accounts to a later date otherwise permitted under this Article, so long as the commencement date meets the required distribution commencement date provisions of Code Section 401(a)(9). All benefits shall be paid under a payment option under Section 9.02, subject to Section 9.04.~~

~~(c) Attainment of Age 70½. Upon attaining age 70½, a Participant may elect to have benefits commence on a date which is no later than the required distribution date of Code Section 401(a)(9), as specified in Section 9.04. All benefits shall be paid under a payment option under Section 9.02, subject to Section 9.04.~~

~~(d) Death. In the event of the Participant's death prior to the commencement of benefits under subsection (a), the value of the Participant's Accounts shall be paid to the Beneficiary under a payment option elected by the Beneficiary under Section 9.02, subject to the restrictions in Section 9.06. Such benefits shall be payable commencing within 60 days after receipt by the Administrator of satisfactory proof of the Participant's death. However, if the Beneficiary is the Spouse of the Participant, then the Spouse may elect within 60 days of Participant's death, to defer distribution to a date not later than the date when the Participant would have attained age 70½. In the event of the Participant's death after commencement of benefits, benefits shall be paid subject to Section 9.04.~~

Section 9.02. Payment Options.

~~(a) The election of a payment option by a Participant or a Beneficiary under Section 9.01 must be made no later than 30 days before the commencement of such benefits. Subject to restrictions established by the Administrator, the methods of payment of benefits available for election by a Participant shall be either: (i) a single sum payment of the entire value of the Participant's Account; (ii) an installment schedule of monthly, quarterly or yearly payments of a period of one or more years; (iii) through purchase of an individual fixed or variable annuity contract for that Account; (iv) a series of payments on an annuity basis as if an annuity contract was purchased for such person, or (v) such method as may be allowed under procedures described by the Administrator and allowed by the Trustee holding the account. It is the Participant's responsibility to notify the Administrator when he or she separates from State service, and to make the elections set forth in this Section.~~

(b) Subject to the terms of the Trust, Participants may elect to have either ~~Roth Contributions~~ or Pre-Tax Contributions or Roth Contributions distributed from the Plan first. Unless provided otherwise under the terms of the Trust, if the Participant fails to make an election, ~~Pre-Tax~~ Pre-Tax Contributions will be distributed from the Plan first.

~~Section 9.03. Lump Sum Settlement. Notwithstanding anything in this Plan to the contrary, if a Participant's Account Balance does not exceed \$1,000 (determined without regarding~~

~~to his or her Rollover Contribution Account) at the time of Severance from Employment, the Administrator may effect a lump sum distribution of the Participant's Accounts.~~

~~**Section 9.04. Minimum Distribution Rules.** No payment option may be selected by a Participant unless the amounts payable to the Participant are expected to be at least equal to the minimum distribution required under Code Section 401(a)(9). With respect to distributions under the Plan, the Plan will apply the minimum distribution requirements of Code Section 401(a)(9) in accordance with the final Treasury Regulations under Code Section 401(a)(9), as follows:~~

~~(a) General Rules.~~

~~(c) Subject to the terms of the Trust, a Rollover Contribution Account may be distributed to a Participant at any time, to the extent that Rollover Contributions have been separately accounted for by the Vendor.~~

~~(d) A Participant or Beneficiary may submit a request for a distribution to the Vendor on the Applicable Form. The Employer shall certify that the Participant has had a Severance from Employment.~~

Section 9.02. Form of Distribution.

~~(a) A Participant may elect to receive his or her Vested Account under any payment option available under the Trust. Subject to the terms of the Trust, these may include, but are not necessarily limited to, a single lump sum, annuity payments, and installment payments. All forms of payment shall be subject to the limitations of the Trust.~~

~~(b) To the extent permitted by the Trust, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account Balance does not exceed \$1,000 (determined without regard to his or her Rollover Contribution Account), unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.~~

~~(c) To the extent permitted by the Trust, a lump sum payment of a Vested Account may be made without the consent of the Participant or Beneficiary if his or her Account Balance exceeds \$1,000 but does not exceed \$7,000 (before January 1, 2024, \$5,000) determined without regard to his or her Rollover Contribution Account, provided that such distribution shall be made in a direct rollover to an individual retirement plan designated by the Administrator, unless the Participant elects to have such distribution paid directly to an eligible retirement plan specified by the Participant in a direct rollover or to receive the distribution directly in a lump sum.~~

Section 9.03. Unforeseeable Emergency Distributions.

~~(a) To the extent (i) a Vendor has been approved by the Administrator to allow Unforeseeable Emergency Distributions under the Plan and (ii) an Unforeseeable Emergency Distribution is permitted by the terms governing the Trust, and subject to guidelines and requirements set forth in procedures established by the Administrator, distribution of Annual Deferrals may be made to a Participant in the event of an unforeseeable emergency. If the Participant has an unforeseeable emergency before Severance from Employment, the Participant may elect to receive a lump sum distribution equal to the amount requested or, if less, the maximum~~

amount determined by the Administrator to be permitted to be distributed under this Section. No Unforeseeable Emergency Distributions shall be permitted from Trusts held by Former Vendors.

(b) All requests for Unforeseeable Emergency Distributions shall be made initially to the Administrator or such other entity as may be designated by the Administrator from time to time. Any decision made by the Administrator or its designee shall be final and conclusive. The Administrator may establish restrictions following a distribution pursuant to this Section.

(c) An unforeseeable emergency is defined as a severe financial hardship of the Participant resulting from:

(1) an illness or accident of the Participant, the Participant's Spouse, or the Participant's dependent (as defined in Code Section 152 without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B));

(2) loss of the Participant's property due to casualty (including the need to rebuild a home following damage to a home not otherwise covered by homeowner's insurance, e.g., as a result of a natural disaster);

(3) the need to pay for the funeral expenses of the Participant's Spouse, or dependent (as defined in Code Section 152 without regard to Code Section 152(d)(1)(B)); or

(4) other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant; for example, the imminent foreclosure of or eviction from the Participant's primary residence may constitute an unforeseeable emergency.

In addition, the need to pay for medical expenses for the Participant or the Participant's Spouse or dependent (as defined in Code Section 152 without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B)), including non-refundable deductibles, as well as for the cost of prescription drug medication, may constitute an unforeseeable emergency. Except as otherwise specifically provided in this Section, neither the purchase of a home nor the payment of college tuition is an unforeseeable emergency.

(d) An Unforeseeable Emergency Distribution may not be made to the extent that an unforeseeable emergency is or may be relieved through reimbursement or compensation from insurance or otherwise, by liquidation of the Participant's assets, to the extent the liquidation of such assets would not itself cause severe financial hardship, or by cessation of Annual Deferrals under the Plan.

(e) An Unforeseeable Emergency Distribution may not exceed the amount reasonably necessary to satisfy the emergency need (which may include any amounts necessary to pay any federal, state, or local income taxes or penalties reasonably anticipated to result from the distribution).

(f) ~~(1) The requirements of this Section will take precedence over any inconsistent provisions of Administrator may further limit and/or prohibit Unforeseeable Emergency Distributions for classes of accounts maintained under the Plan.~~

Section 9.04. Small Account Distribution.

(a) A Participant who is an Employee may elect to receive a distribution of the Participant's Account under the Plan before a Severance from Employment if the following requirements are met:

(1) the Participant's Account (not including his or her Rollover Contribution Account) does not exceed the amount specified under Code Section 411(a)(11) (as of January 1, 2024, \$7,000) on the date of the distribution;

(2) ~~All distributions required~~ the Participant has not previously received an in-service distribution of the Participant's Account under this Section ~~will be determined and made in accordance with the Treasury Regulations under Code Section 401(a)(9); and~~

(3) ~~Distributions to a Participant and his or her Beneficiaries shall only be made in accordance with the incidental death benefit requirements of Code Section 401(a)(9)(G) and the Treasury Regulations thereunder.~~ no Annual Deferrals have been made to the Plan with respect to the Participant during the two year period ending on the date of the in-service distribution under this Section.

(b) ~~Time and Manner of Distribution~~ This election must be made in accordance with the procedures established by the Administrator.

Section 9.05. Coronavirus-Related Distributions.

(a) Subject to the terms of the Trust, a Participant who is a Qualified Individual may, on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), and before December 31, 2020, request one or more Coronavirus-Related Distributions from his or her Accounts regardless of whether he or she has had a Severance from Employment, subject to the following conditions:

(1) ~~The Participant's entire interest will be distributed, or begin to be distributed, to the Participant no later than the Participant's Required Beginning Date.~~ Coronavirus-Related Distributions to a Participant from this Plan and all other plans maintained by the Employer or a Related Employer may not exceed \$100,000; and

~~(2) If the Participant dies before required distributions begin, the Participant's entire interest will be distributed, or begin to be distributed, no later than as follows:~~

(2) A Participant shall certify to the Administrator or Vendor that he or she is a Qualified Individual prior to receiving a Coronavirus-Related Distribution.

(b) A Participant who has received a Coronavirus-Related Distribution from the Plan may, at any time during the three year period beginning on the day after the date on which such distribution was received repay such Coronavirus-Related Distribution by making one or more Rollover Contributions to the Plan which, in an aggregate amount, do not exceed the amount of such Coronavirus-Related Distribution. The preceding sentence shall not apply to any Participant who is not eligible to make a Rollover Contribution to the Plan under Section 4.03.

Section 9.06. Reemployment. If a Participant who is a former Employee subsequently becomes an Employee again, the Participant cannot request a distribution of his or her Vested Account until he or she is again entitled to a distribution under Section 9.01

Section 9.07. Death Benefits. If a Participant dies before the distribution of his or her entire Account, his or her remaining Account shall be distributed to his or her Beneficiary(ies) as soon as administratively practicable after the Participant's death, unless the Beneficiary elects a later payment date on the Applicable Form, subject to Code Section 401(a)(9). A Beneficiary may elect to receive the Participant's Account under any distribution option available under the Section 9.02, subject to Code Section 401(a)(9).

Section 9.08. Required Distribution Rules.

(a) The provisions of this Section 9.08 take precedence over any inconsistent provisions of the Plan or of the Trust. All distributions under this Plan shall be made in accordance with a reasonable good faith interpretation of Code Section 401(a)(9) and the regulations promulgated thereunder, including the incidental death benefit rules under Code Section 401(a)(9)(G) and the changes under the Setting Every Community Up for Retirement Enhancement (SECURE) Act of 2019, SECURE 2.0 of 2022, and Treasury Regulation Sections 1.401(a)(9)-1 through -9, as each may be amended from time to time.

(b) Distributions may only be made over one of the following periods (or a combination thereof):

- (1) The life of the Participant;
 - (2) The life of the Participant and a Designated Beneficiary;
 - (3) A period certain not extending beyond the life expectancy of the Participant;
- or
- (4) A period certain not extending beyond the joint and last survivor life expectancy of the Participant and Designated Beneficiary;

provided, however, that distributions under this paragraph (b) that are paid in calendar years 2024 and later during the lifetime of the Participant shall be determined without regard to the Participant's Roth Contribution Account or to any subaccount of the Participant's Rollover Contribution Account holding Roth Rollover Contributions and earnings thereon.

(c) ~~(i) If the~~ Participant's surviving Spouse is the Participant's sole Designated Beneficiary, ~~then distributions to the surviving Spouse will begin by the later of: (A) December 31~~ Accounts shall be distributed to the Participant beginning no later than April 1 of the calendar year ~~immediately~~ following the ~~calendar~~ later of (i) the calendar year in which the Participant ~~died; or (B) December 31 of~~ attains his or her applicable age within the meaning of Code Section 401(a)(9)(C)(v) or (ii) the calendar year in which the Participant ~~would have attained age 70½~~ has a Severance from Employment.

~~(ii) If the Participant's surviving Spouse is not the Participant's sole Designated Beneficiary, then distributions to the Designated Beneficiary will begin~~

~~by December 31 of the calendar year immediately following the calendar year in which the Participant died.~~

(d) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant before distribution of his or her Account has begun under paragraph (c), the following distribution provisions shall take effect:

~~(iii) If there is no~~ (1) The portion of the Participant's Account(s) payable to a Beneficiary that is not a Designated Beneficiary as of September 30 of the year following the year of the Participant's death, the Participant's entire interest will ~~shall~~ be distributed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.

(2) The portion of the Participant's Account(s) payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(3) The portion of the Participant's Account(s) payable to an Eligible Designated Beneficiary shall be distributed, pursuant to the election of the Eligible Designated Beneficiary, either (i) by December 31 of the calendar year containing the tenth anniversary of the Participant's death, or (ii) beginning no later than December 31 of the calendar year immediately following the calendar year in which the Participant died, over the life of the Eligible Designated Beneficiary or over a period not exceeding the life expectancy of the Eligible Designated Beneficiary. If the Eligible Designated Beneficiary is the surviving Spouse, the Eligible Designated Beneficiary may elect to delay payment under item (ii) until December 31 of the calendar year in which the Participant would have attained the applicable age within the meaning of Code Section 401(a)(9)(C)(v). If the Eligible Designated Beneficiary does not elect a method of distribution as provided above, the Participant's Account(s) shall be distributed in accordance with item (i).

(e) Subject to regulations or other guidance issued under Code Section 401(a)(9), upon the death of the Participant after distribution of his or her Account has begun under paragraph (c), any remaining portion of his or her Account shall continue to be distributed at least as rapidly as under the method of distribution in effect at the time of the Participant's death; provided, however, that the portion of the Participant's Account payable to a Designated Beneficiary who is not an Eligible Designated Beneficiary shall be distributed in its entirety by December 31 of the calendar year containing the tenth anniversary of the Participant's death.

(f) Upon the death of an Eligible Designated Beneficiary, or the attainment of age 21 of an Eligible Designated Beneficiary who is a minor child of the Participant, before distribution of the Participant's entire Account under paragraphs (d) or (e), the remainder of the Participant's Account shall be distributed by December 31 of the calendar year containing the tenth anniversary of the Eligible Designated Beneficiary's death, or by December 31 of the calendar year in which the child attains age 31, as applicable.

(g) Any distribution required under the incidental death benefit requirements of Code Section 401(a) shall be treated as a distribution required under this Section 9.08.

(h) Each Vendor shall be separately and solely responsible for complying with the provisions of this Section 9.08 with respect to the Trust Funds it holds under the Plan. The Vendor shall calculate the amounts required to be distributed to a Participant under this Section and notify such Participant of such distributions at least 60 days prior to the date distributions must begin.

(i) Notwithstanding anything in this Section 9.08 to the contrary, for 2020 the minimum distribution requirements will be satisfied as provided in this section, as determined by the terms of the Trust.

~~(iv) If the Participant's surviving Spouse is the Participant's sole Designated Beneficiary and the surviving Spouse dies after the Participant but before distributions to the surviving Spouse begin, this Section 9.04(b)(2), other than Section 9.04(b)(2)(i), will apply as if the surviving Spouse were the Participant.~~

~~For purposes of this Section 9.04(b)(2) and Section 9.04(d), unless Section 9.04(b)(2)(iv) applies, distributions are considered to begin on the Participant's Required Beginning Date. If Section 9.04(b)(2)(iv) applies, distributions are considered to begin on the date distributions are required to begin to the surviving Spouse under Section 9.04(b)(2)(i). If distributions under an annuity purchased from an insurance company irrevocably commence to the Participant before the Participant's Required Beginning Date (or to the Participant's surviving Spouse before the date distributions are required to begin to the surviving Spouse under Section 9.04(b)(2)(i)), the date distributions are considered to begin is the date distributions actually commence.~~

~~(3) Unless the Participant's interest is distributed in the form of an annuity purchased from an insurance company or in a single sum on or before the Required Beginning Date, as of the first Distribution Calendar Year distributions will be made in accordance with Sections 9.04(c) and 9.04(d). If the Participant's interest is distributed in the form of an annuity purchased from an insurance company, distributions thereunder will be made in accordance with the requirements of Code Section 401(a)(9) and the Treasury Regulations.~~

~~(c) Required Minimum Distributions During Participant's Lifetime:~~

~~(1) During the Participant's lifetime, the minimum amount that will be distributed for each Distribution Calendar Year is the lesser of:~~

~~(i) the quotient obtained by dividing the Participant's Account Balance by the distribution period in the Uniform Lifetime Table set forth in Section 1.401(a)(9)-9 of the Treasury Regulations, using the Participant's age as of the Participant's birthday in the Distribution Calendar Year; or~~

~~(ii) if the Participant's sole Designated Beneficiary for the Distribution Calendar Year is the Participant's Spouse, the quotient obtained by dividing the Participant's Account Balance by the number in the Joint and Last Survivor Table set forth in Section 1.401(a)(9)-9 of the Treasury Regulations, using the Participant's and Spouse's attained ages as of the Participant's and Spouse's birthdays in the Distribution Calendar Year.~~

~~(2) Required minimum distributions will be determined under this Section 9.04(c) beginning with the first Distribution Calendar Year and up to and including the Distribution Calendar Year that includes the Participant's date of death~~

~~(d) Required Minimum Distributions After Participant's Death:~~

~~(1) Death On or After Date Distributions Begin:~~

~~(i) If the Participant dies on or after the date distributions begin and there is a Designated Beneficiary, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account Balance by the longer of the remaining Life Expectancy of the Participant or the remaining Life Expectancy of the Participant's Designated Beneficiary, determined as follows:~~

~~(A) The Participant's remaining Life Expectancy is calculated using the age of the Participant in the year of death, reduced by one for each subsequent year.~~

~~(B) If the Participant's surviving Spouse is the Participant's sole Designated Beneficiary, the remaining Life Expectancy of the surviving Spouse is calculated for each Distribution Calendar Year after the year of the Participant's death using the surviving Spouse's age as of the Spouse's birthday in that year. For Distribution Calendar Years after the year of the surviving Spouse's death, the remaining Life Expectancy of the surviving Spouse is calculated using the age of the surviving Spouse as of the Spouse's birthday in the calendar year of the Spouse's death, reduced by one for each subsequent calendar year.~~

~~(C) If the Participant's surviving Spouse is not the Participant's sole Designated Beneficiary, the Designated Beneficiary's remaining Life Expectancy is calculated using the age of the beneficiary in the year following the year of the Participant's death, reduced by one for each subsequent year.~~

~~(ii) If the Participant dies on or after the date distributions begin and there is no Designated Beneficiary as of September 30 of the year after the year of the Participant's death, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account Balance by the Participant's remaining Life Expectancy calculated using the age of the Participant in the year of death, reduced by one for each subsequent year.~~

~~(2) Death Before Date Distributions Begin:~~

~~(i) If the Participant dies before the date distributions begin and there is a Designated Beneficiary, the minimum amount that will be distributed for each Distribution Calendar Year after the year of the Participant's death is the quotient obtained by dividing the Participant's Account Balance by the remaining Life~~

~~Expectancy of the Participant's Designated Beneficiary, determined as provided in Section 9.04(d)(1).~~

~~(ii) If the Participant dies before the date distributions begin and there is no Designated Beneficiary as of September 30 of the year following the year of the Participant's death, distribution of the Participant's entire interest will be completed by December 31 of the calendar year containing the fifth anniversary of the Participant's death.~~

~~(iii) If the Participant dies before the date distributions begin, the Participant's surviving Spouse is the Participant's sole Designated Beneficiary, and the surviving Spouse dies before distributions are required to begin to the surviving Spouse under Section 9.04(b)(2)(i), this Section 9.04(d)(2) will apply as if the surviving Spouse were the Participant.~~

~~(e) Definitions:~~

~~(1) "Designated Beneficiary" means the individual who is designated as the Beneficiary under Section 9.05 of the Plan and is the designated beneficiary under Code Section 401(a)(9) and Treasury Regulation Section 1.401(a)(9)-1, Q&A-4.~~

~~(2) "Distribution Calendar Year" means a calendar year for which a minimum distribution is required. For distributions beginning before the Participant's death, the first Distribution Calendar Year is the calendar year immediately preceding the calendar year which contains the Participant's Required Beginning Date. For distributions beginning after the Participant's death, the first Distribution Calendar Year is the calendar year in which distributions are required to begin under Section 9.04(b)(2). The required minimum distribution for the Participant's first Distribution Calendar Year will be made on or before the Participant's Required Beginning Date. The required minimum distribution for other Distribution Calendar Years, including the required minimum distribution for the Distribution Calendar Year in which the Participant's Required Beginning Date occurs, will be made on or before December 31 of that Distribution Calendar Year.~~

~~(3) "Life Expectancy" means Life Expectancy as computed by use of the Single Life Table in Treasury Regulation Section 1.401(a)(9)-9.~~

~~(4) "Participant's Account Balance" means the Account Balance as of the last valuation date in the calendar year immediately preceding the Distribution Calendar Year (valuation calendar year) increased by the amount of any contributions made and allocated or forfeitures allocated to the Account Balance as of dates in the valuation calendar year after the valuation date and decreased by distributions made in the valuation calendar year after the valuation date. The Account Balance for the valuation calendar year includes any amounts rolled over or transferred to the Plan either in the valuation calendar year or in the Distribution Calendar Year if distributed or transferred in the valuation calendar year.~~

~~(5) "Required Beginning Date" means April 1 of the calendar year following the ~~later of (i) the calendar year in which the Participant reaches 70½, or (ii) the calendar year in which the Participant retires.~~~~

~~(f) 2009 Minimum Distributions. For 2009, the minimum distribution requirements under Section 9.04 will be satisfied as provided in either paragraph (1) or (2) below, as determined by the Vendor responsible for the Participant's required minimum distribution:~~

(1) ~~A~~ Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive ~~a~~ required minimum distribution in 2020 (or paid in 2021 for the 2020 calendar year for a Participant with a required beginning date of April 1, 2021) but for the enactment of Code Section 401(a)(9)(~~HI~~) ("~~2009~~2020 RMDs"), ~~and who would have satisfied that requirement by receiving distributions that are either (Ai) equal to the 2009 RMDs, or (Bii) one or more payments (that include the 2009 RMDs) in a series of substantially equal distributions (that include the 2009 RMDs) periodic payments made at least annually and expected to last for the life (or life expectancy) of the Participant, the joint lives (or joint life expectaneyexpectancies) of the Participant and the Participant's designated Beneficiary, or for a period of at least 10 years ("Extended 2009 RMDs"), will not receive those distributions for 2009~~ this distribution unless the Participant or ~~beneficiary~~ Beneficiary chooses ~~not~~ not to receive ~~such distributions~~ the distribution. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to ~~stop receiving the distributions~~ receive the distribution described in the preceding sentence.

(2) ~~A~~ Effective March 27, 2020, or as soon as administratively practicable thereafter, a Participant or Beneficiary who would have been required to receive ~~2009 RMDs~~ a 2020 RMD, and who would have satisfied that requirement by receiving distributions that are (Ai) equal to the ~~2009~~2020 RMDs or (Bii) Extended ~~2009~~2020 RMDs, will ~~not~~ receive ~~those distributions for 2009~~ this distribution unless the Participant or Beneficiary chooses not to receive such distributions. Participants and Beneficiaries described in the preceding sentence will be given the opportunity to elect to ~~receive the distributions~~ stop receiving the distribution described in the preceding sentence.

(3) In addition, solely for purposes of applying the direct rollover provisions of Article XII, 2020 RMDs and Extended 2020 RMDs will or will not be treated as eligible rollover distributions in 2020 as determined by the terms of the Trust.

ARTICLE X. LOANS

~~Further, if provided by the Vendor, the 2009 RMDs and Extended 2009 RMDs will be treated as eligible rollover distributions in 2009.~~

~~**Section 9.05. Designated Beneficiary.** The Participant shall file with the Administrator, or such other entity as may be designated by the Administrator from time to time, the Applicable Form, designating or changing the person or persons who shall receive any balance of the Participant's Account under this Plan in the event of the Participant's death. The Participant may also designate his or her estate as the Beneficiary of his or her Account, or a trust created by him or her as the Beneficiary. The Applicable Form will have no effect until it is signed and filed with the Administrator, or such other entity as may be designated by the Administrator from time to time. If the Participant dies without having designated a Beneficiary, any payment due shall be made to the properly appointed fiduciary of the Participant's estate. The Participant shall have the~~

~~burden for executing and filing the Applicable Form. Only the last designation of a Beneficiary prior to receipt of benefits shall have effect, and any new designation of a Beneficiary invalidates, supersedes, and revokes any prior designation.~~

~~A Participant shall have the right to designate at least one primary and contingent Beneficiary and to indicate whether the Beneficiaries in each class are to share equally or according to specified percentages. A contingent Beneficiary shall receive benefit payments only if there is no surviving primary Beneficiary. If a Beneficiary predeceases the Participant, the surviving Beneficiaries in the same class (i.e., primary or contingent) will share among each other all benefits in the same proportion as originally designated by the Participant. In the event of the death of a Beneficiary after the Beneficiary has become entitled to receive benefits, the remaining benefits shall be paid to the estate of the Beneficiary in a lump sum.~~

Section 10.01. ~~Section 9.06. Voluntary In-Service Distribution~~ Loans Generally.

~~(a) A Participant who is an active Employee of the Employer may elect to receive a distribution of the Participant's Pre-Tax Contribution Account and Transfer Account under the Plan before a Severance of Employment if the following requirements are met:~~

(a) To the extent (i) a Vendor has been approved by the Administrator to allow loans under the Plan and (ii) loans are permitted by the terms governing the applicable Trust, loans shall be available to a Participant who is an Employee from his or her Vested Account. No loans shall be permitted from Trust Funds held by Former Vendors.

(b) Loans shall be subject to all applicable requirements and restrictions of the Code, including the provisions of Code Section 72(p) and the regulations thereunder. A Participant who has defaulted on a loan shall not be entitled to a future loan under the Plan until it has been fully repaid to the Plan.

(c) All loans shall be subject to the approval of the Vendor. The Vendor may charge a reasonable processing fee with respect to any loan.

(d) If a Participant who is a Qualified Individual has an outstanding loan on or after March 27, 2020, and certifies that he or she is a Qualified Individual, and the Vendor has been approved by the Administrator to administer delayed loan repayments under the Plan, this paragraph (d) shall apply:

(1) ~~if the Participant's Vested Account (not including his or her Rollover Contribution Account) does not exceed the amount specified~~ due date under Code Section 411(a)(11) ~~(as of January 1, 2001, \$5,000) on the date of the distribution;~~ 72(p) for any repayment with respect to such loan occurs during the period beginning on March 27, 2020, and ending on December 31, 2020, such due date shall be delayed for one year subject to the terms of the Trust;

(2) ~~the Participant has not previously received an in-service distribution of the Participant's Account under this Section; and~~ any subsequent repayments with respect to any such loan shall be appropriately adjusted to reflect the delay in the due date under paragraph (1) and any interest accruing during such delay; and

(3) ~~no Annual Deferrals have been made to the Plan with respect to the Participant during the two~~ in determining the five year period ending on the date of the in-service distribution under this and the term of a loan under Code Section 72(p), the period described in paragraph (1) shall be disregarded.

~~(b) This election must be made in accordance with the procedures established by the Administrator.~~

~~**Section 9.07. Distributions from the Rollover Contribution Account.** Effective January 1, 2005, a Participant shall have the right to a distribution of the Participant's Rollover Contribution Account at any time at the direction of the Participant, subject to any applicable penalties or other distribution requirements under the Code.~~

~~**Section 9.08. Unforeseeable Emergency Distributions.** Notwithstanding any other provision herein and subject to guidelines and requirements set forth in procedures established by the Administrator, individuals with a Pre-Tax Contribution Account and/or Roth Contribution Account may request that benefits be paid in the event of an unforeseeable emergency, including individuals who are no longer employed by the Employer but who still have an Account Balance and individuals who are currently receiving benefits under the Plan which are not being paid as an annuity. If the Participant has an unforeseeable emergency before Severance from Employment, the Participant may elect to receive a lump sum distribution equal to the amount requested or, if less, the maximum amount determined by the Administrator to be permitted to be distributed under this Section.~~

~~(a) **Requests for Unforeseeable Emergency Distributions.** All requests for unforeseeable emergency distributions shall be made initially to the Administrator or such other entity as may be designated by the Administrator from time to time. Any decision made by the Administrator or its designee shall be final and conclusive. The Administrator may establish restrictions following a distribution pursuant to this Section.~~

~~(b) **Unforeseeable Emergency Defined.** An unforeseeable emergency is defined as a severe financial hardship of the Participant resulting from: an illness or accident of the Participant, the Participant's Spouse, or the Participant's dependent (as defined in Code Section 152 without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B)); loss of the Participant's property due to casualty (including the need to rebuild a home following damage to a home not otherwise covered by homeowner's insurance, e.g., as a result of a natural disaster); the need to pay for the funeral expenses of the Participant's Spouse, or dependent (as defined in Code Section 152 without regard to Code Section 152(d)(1)(B)); or other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant. For example, the imminent foreclosure of or eviction from the Participant's primary residence may constitute an unforeseeable emergency. In addition, the need to pay for medical expenses for the Participant or the Participant's Spouse or dependent (as defined in Code Section 152 without regard to Code Sections 152(b)(1), (b)(2), and (d)(1)(B)), including non-refundable deductibles, as well as for the cost of prescription drug medication, may constitute an unforeseeable emergency. Except as otherwise specifically provided in this Section, neither the purchase of a home nor the payment of college tuition is an unforeseeable emergency.~~

~~(c) **Unforeseeable Emergency Distribution Standard.** A distribution on account of unforeseeable emergency may not be made to the extent that such emergency is or may be relieved~~

~~through reimbursement or compensation from insurance or otherwise, by liquidation of the Participant's assets, to the extent the liquidation of such assets would not itself cause severe financial hardship, or by cessation of deferrals under the plan.~~

~~(d) Distribution Necessary To Satisfy Emergency Need. Distributions because of an unforeseeable emergency may not exceed the amount reasonably necessary to satisfy the emergency need (which may include any amounts necessary to pay any federal, state, or local income taxes or penalties reasonably anticipated to result from the distribution).~~

~~(e) Possible Class Restriction. The Administrator may further limit and/or prohibit such withdrawals for classes of accounts maintained under the Plan.~~

~~(f) Special Relief for Distributions. Notwithstanding the other provisions of this Article, the Administrator may authorize the Vendors to make any distribution authorized by the Internal Revenue Service or by Act of Congress in response to a natural disaster.~~

Section 10.02. Loan Procedures. The Vendor shall establish written procedures to govern Participant loans under the Plan, which may be amended from time to time. All loans shall comply with such procedures, and shall be administered subject to the terms of the Trust.

Section 10.03. Loan Limits.

(a) No loan to a Participant under the Plan may exceed the lesser of:

(1) \$50,000, reduced by the greater of (i) the outstanding balance on any loan from the Plan to the Participant on the date the loan is made or (ii) the highest outstanding balance on loans from the Plan to the Participant during the one-year period ending on the day before the date the loan is approved by the Vendor (not taking into account any payments made during such one-year period); or

(2) One-half of the value of the Participant's Vested Account (as of the valuation date immediately preceding the date on which such loan is approved by the Vendor).

Notwithstanding the foregoing, with respect to any loan made to a Participant who is a Qualified Individual on or after April 6, 2020 (or as soon as administratively practicable after April 6, 2020), but before September 24, 2020, the loan limits under this paragraph (a) shall apply by substituting (i) "\$100,000" for "\$50,000" under subparagraph (a)(1), and (ii) "The value of the Participant's Vested Account" for "One-half of the value of the Participant's Vested Account" under subparagraph (a)(2).

(b) For purposes of this Section, any loan from any other plan maintained by the Employer and any Related Employer shall be treated as if it were a loan made from the Plan, and the Participant's vested interest under any such other plan shall be considered a Vested interest under this Plan; provided, however, that the provisions of this paragraph shall not be applied so as to allow the amount of a loan to exceed the amount that would otherwise be permitted in the absence of this paragraph.

(c) The Administrator shall take such steps as appropriate to coordinate the limitations on loans, including collection of information from Vendors, and transmission of information

requested by any Vendor. The Administrator may delegate this responsibility to a Vendor or to another service provider pursuant to Article XII of the Plan.

ARTICLE XI.
VESTING

A Participant or, in the event of the Participant's death, the Beneficiary, shall be 100% Vested in his or her Accounts at all times.

ARTICLE XII.~~**ARTICLE X.**~~

ELIGIBLE ROLLOVERS FROM THIS PLAN

Section 12.01. ~~Section 10.01.~~ Definitions for this Article. For purposes of this Article, the following definitions shall apply.

(a) "Direct Rollover" means an Eligible Rollover Distribution that is paid directly to an Eligible Retirement Plan for the benefit of the Distributee.

(b) "Distributee" means a Participant, the Spouse of the Participant, the Participant's former Spouse who is an alternate payee within the meaning of Code Section 414(p)(8), and, effective January 1, 2008, a Participant's non-Spouse Beneficiary, any of whom is eligible to receive a distribution from the Plan.

(c) ~~(a)~~ "Eligible Retirement Plan," as defined under Code Section 402(c)(8)(B), means:

- (1) an individual retirement account described in Code Section 408(a);
- (2) an individual retirement annuity (other than an endowment contract) described in Code Section 408(b);
- (3) a simple retirement account described in Code Section 408(p)(1) following the two year period described in Code Section 72(t)(6);
- (4) any annuity plan described in Code Section 403(a);
- (5) a plan described in Code Section 403(b);
- (6) a qualified plan described in Code Section 401(a);
- (7) a Code Section 457(b) eligible deferred compensation plan which is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state; and
- (8) effective January 1, 2008, a Roth individual retirement account described in Code Section 408A(e), provided the Distributee's adjusted gross income does not exceed any limit applicable under federal law for the tax year in which the distribution occurs.

Effective January 1, 2008, in the case of a distribution to a Participant's non-Spouse Beneficiary, an Eligible Retirement Plan shall mean the plans described in ~~paragraphs~~subparagraphs (1) and

(2) only, to the extent consistent with the provisions of Code Section 402(c)(11) and any successor provisions thereto or additional guidance issued thereunder.

~~(d)~~ ~~(b)~~ "Eligible Rollover Distribution," as defined in Code Section 402(f)(2)(A), means any distribution of all or any portion of the balance to the credit of the Distributee under this Plan, except that an Eligible Rollover Distribution does not include:

(1) any distribution that is one of a series of substantially equal periodic payments (not less frequently than annually) made for the life (or life expectancy) of the Distributee or the joint lives (or joint life expectancies) of the Distributee and the Distributee's designated ~~beneficiary~~ Beneficiary, or for a period of ten years or more;

(2) any distribution to the extent such distribution is required under Code Section 401(a)(9);

(3) the portion of any distribution that is not includible in gross income; provided, however, a portion of a distribution shall not fail to be an Eligible Rollover Distribution merely because the portion consists of after-tax employee contributions that are not includible in gross income. However, such portion may be transferred only:

(i) to an individual retirement account or annuity described in Code Section 408(a) or 408(b), respectively, or to a qualified defined contribution plan described in Code Section 401(a) that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of such distribution which is not so includible;

(ii) to a qualified defined benefit plan described in Code Section 401(a) or to an annuity contract described in Code Section 403(b), that agrees to separately account for amounts so transferred (and earnings thereon), including separately accounting for the portion of the distribution that is includible in gross income and the portion of the distribution that is not so includible; or

(iii) to a Roth IRA described in Code Section 408A;

(4) any distribution which is made upon the financial hardship of the Participant; and

(5) other items designated by regulations, or by the Commissioner in revenue rulings, notices, or other guidance, as items that do not constitute an eligible rollover distribution.

Section 12.02. ~~**Section 10.02.**~~ **Direct Transfer of Eligible Rollover Distribution.** A Distributee may elect on an Applicable Form to have an Eligible Rollover Distribution paid directly to an Eligible Retirement Plan as specified by the Distributee in a Direct Rollover, at the time and in the manner prescribed by the Vendor. An Eligible Rollover Distribution that is paid to an Eligible Retirement Plan in a Direct Rollover is excludable from the Distributee's gross income under Code Section 402; provided, however, if any portion of such Eligible Rollover Distribution is subsequently distributed from the Eligible Retirement Plan, that portion shall be included in gross income to the extent required under Code Section 402, 457, or 408.

Section 12.03. ~~Section 10.03.~~ Mandatory Withholding of Eligible Rollover Distributions.

(a) If the Distributee of an Eligible Rollover Distribution does not elect to have the Eligible Rollover Distribution paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover pursuant to Code Section 401(a)(31), the Eligible Rollover Distribution shall be subject to a mandatory 20% federal income tax withholding under Code Section 3405(c). Only that portion of the Eligible Rollover Distribution that is not paid directly from the Plan to an Eligible Retirement Plan in a Direct Rollover shall be subject to the mandatory withholding requirement under Code Section 3405(e), and only to the extent such amount would otherwise be includible in the Distributee's taxable gross income.

(b) ~~(a)~~ If a Distributee elects to have an Eligible Rollover Distribution paid to the Distributee, the distribution may be excluded from gross income of the Distributee provided that said distribution is contributed to an Eligible Retirement Plan no later than the 60th day following the day on which the Distributee received the distribution.

(c) ~~(b)~~ If the Plan distribution is not an Eligible Rollover Distribution, said distribution shall be subject to the elective withholding provisions of Code Section 3405(a) and (b).

Section 12.04. ~~Section 10.04.~~ Explanation of Plan Distribution and Withholding Requirements. Not fewer than 30 days nor more than 180 days before an Eligible Rollover Distribution, the Vendor shall provide each Distributee a written explanation as required under Code Section 402(f), which explains the rules:

(a) under which a Distributee may elect to have an Eligible Rollover Distribution paid in a Direct Rollover to an Eligible Retirement Plan;

(b) that require the withholding of tax on an Eligible Rollover Distribution if it is not paid in a Direct Rollover to an Eligible Retirement Plan;

(c) that provide that a distribution shall not be subject to tax if the distribution is rolled over to an Eligible Retirement Plan within 60 days after the date the ~~Distributee~~ Distributee receives the distribution (unless the 60 day deadline is waived under Code Section 402(c)(3)(B) or a later deadline is established under Internal Revenue Service guidance); and

(d) if applicable, certain special rules regarding taxation of the distribution as described in Code Sections 402(d) and (e).

Notwithstanding the above, a distribution may begin fewer than 30 days after the notice discussed in the preceding sentence is given, provided that the Vendor clearly informs the Participant that he or she has a right to a period of at least 30 days after receiving the notice to consider the decision of whether or not to elect a distribution and the Participant, after receiving a notice, affirmatively elects a distribution.

ARTICLE XI
ELIGIBLE ROLLOVERS TO THIS PLAN

Section 11.01. Participant Rollovers.

~~(a) At any time, a Participant who is an Employee and who is entitled to receive an Eligible Rollover Distribution, as defined under Code Section 402(c)(4) and Section 10.02(a) of the Plan, from another eligible retirement plan may contribute to the Plan in cash as a rollover contribution, a qualified rollover amount from a qualified plan under Code Section 401(a), an annuity plan under Code Section 403(a), an individual retirement account under Code Section 408(a) or individual retirement annuity under Code Section 408(b), an eligible governmental deferred compensation plan under Code Section 457(b), or a tax sheltered annuity under Code Section 403(b). Any Rollover Contribution (i) shall be subject to the Administrator's determination, in its discretion, that the Rollover Contribution satisfies all applicable requirements of the Code and (ii) shall be made directly from such prior plan, or if such amount was distributed to the Participant, such Rollover Contribution shall be made within 60 days after the Participant receives the rollover amount.~~

~~(b) The Plan shall accept a Rollover Contribution to a Roth Contribution Account only if it is a direct rollover from another Roth elective deferral account under an applicable retirement plan described in Code Section 402A(e)(1) and only to the extent the rollover is permitted under the rules of Code Section 402(e).~~

~~(c) A Rollover Contribution shall be allocated to the Rollover Contribution Account of the Participant as of the date of the contribution. Before a Rollover Contribution is made, the Participant shall designate on the Applicable Form the Investment Options in which the Vendor should invest the Participant's Rollover Contribution.~~

~~**Section 11.02. Administrator Requirements.** The Vendor may require such documentation from the distributing plan as it deems necessary to effectuate the rollover in accordance with Code Section 402 and to confirm that such plan is an eligible retirement plan within the meaning of Code Section 402(c)(8)(B). With respect to receipt or transfer of Account Balances under this Article the Vendor may rely upon representations made by either the Participant or other plan (made through those having apparent authority to make them).~~

~~**Section 11.03. Separate Accounts for Rollovers.** The Vendor shall establish and maintain for the Participant a separate account for any eligible rollover distribution paid to the Plan from any eligible retirement plan that is not an eligible governmental plan under Code Section 457(b). In addition, the Vendor shall establish and maintain for the Participant a separate account for any eligible rollover distribution paid to the Plan from any eligible retirement plan that is an eligible governmental plan under Code Section 457(b).~~

Section 11.04. In-Plan Roth Rollovers.

~~(a) Any portion or all of a Participant's Vested Account Balance (other than a Roth Contribution Account) is eligible for direct rollover to the Participant's Roth Contribution Account under the Plan, even if the Vested Account Balance is not otherwise distributable (pursuant to Code Section 402A(e)(4)(E)) under Article IX of the Plan, and the transfer shall be~~

~~treated as a qualified rollover contribution (within the meaning of Code Section 408A(e)) to the Participant's Roth Contribution Account.~~

~~(b) A Participant's election under this Section shall be subject to the reasonable administrative procedures established by the Administrator, Code Section 402A(e)(4) and the regulations thereunder, and subsequent guidance from the Internal Revenue Service.~~

~~(e) The taxable portion of the Participant's Account directly rolled over to a Roth Contribution Account under this Section shall be included in the Participant's gross income in the tax year in which the transfer occurs.~~

~~(d) To the extent required by Code Section 402(f), the Administrator shall provide written information regarding in Plan Roth rollovers under this Section, for amounts that are otherwise distributable under Article IX.~~

~~ARTICLE XIII~~ARTICLE XII PLAN-TO-PLAN TRANSFERS

~~**Section 12.01. Direct Transfers Among Plans of the Same Employer.** A transfer from this Plan to another eligible governmental plan of the same Employer and a transfer to this Plan from another eligible governmental plan of the same Employer is permitted under the following conditions:~~

Section 13.01. Plan-to-Plan Transfers.

(a) A transfer from this Plan to the State of Maryland Deferred Compensation Plan and Trust ("MSRP 457(b) Plan"), a Code Section 457(b) eligible deferred compensation plan maintained by an eligible employer described in Code Section 457(e)(1)(A) within the State of Maryland, is permitted under the following conditions:

(1) The MSRP 457(b) Plan provides for the receipt of plan-to-plan transfers;

~~(2) (1) The transfer is from an eligible governmental plan to another eligible governmental plan of~~Unless the MSRP 457(b) Plan and the Plan are maintained by the same Employer (and, for this purpose, the Employer is not treated as the same employer if the Participant's~~Participant's~~ compensation is paid by a different entity), the Participant's entire Account under the Plan is transferred to the MSRP 457(b) Plan;

~~(2) The transferor plan provides for transfers;~~

~~(3) The receiving plan provides for the receipt of transfers;~~

(3) (4) The Participant ~~or Beneficiary~~ whose amounts deferred are being transferred will have an amount deferred immediately after the transfer at least equal to the amount deferred with respect to that Participant ~~or Beneficiary~~ immediately before the transfer; and

(4) The Participant whose amounts are being transferred is eligible to participate in the MSRP 457(b) Plan; and

(5) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.457-10(b) and such other rules and policies established by the Administrator or Vendor.

(b) A transfer to this Plan from the MSRP 457(b) Plan is permitted under the following conditions:

(1) The MSRP 457(b) Plan provides for plan-to-plan transfers;

(2) Unless the Plan and the MSRP 457(b) Plan are maintained by the same Employer (and, for this purpose, the Employer is not treated as the same employer if the Participant's compensation is paid by a different entity), the Participant's entire account under the MSRP 457(b) Plan is transferred to the Plan;

(3) ~~(5) The Participant or Beneficiary whose deferred amounts deferred are being transferred is not eligible for additional annual deferrals in the receiving plan unless the Participant or Beneficiary is performing services for the entity maintaining the receiving plan.~~ will have an amount deferred immediately after the transfer at least equal to the amount deferred with respect to that Participant immediately before the transfer;

(4) The Participant whose amounts are being transferred is eligible to participate in the Plan; and

(5) The transfer satisfies such other requirements set forth in Treasury Regulation Section 1.457-10(b) and such other rules and policies established by the Administrator or Vendor.

Section 12.02. Plan-to-Plan Transfers from the Plan to another Plan.

~~(a) Requirements for Transfer. At the direction of the Employer, the Administrator may permit a class of Participants and Beneficiaries to elect to have all or any portion of their Account Balance transferred to another eligible governmental plan within the meaning of Code Section 457(b) and Treasury Regulation Section 1.457-2(f). A transfer is permitted under this Section 12.02(a) for a Participant only if the Participant has had a Severance from Employment with the Employer and is an employee of the entity that maintains the other eligible governmental plan. Further, a transfer is permitted under this Section 12.02(a) only if the other eligible governmental plan provides for the acceptance of plan-to-plan transfers and if each Participant and Beneficiary has an amount deferred under the other plan immediately after the transfer at least equal to the amount transferred. The Administrator may require such documentation from the receiving plan as it deems appropriate or necessary to comply with this Section 12.02 (for example, to confirm that the receiving plan is an eligible governmental plan and to assure that the transfer is permitted under the receiving plan) or to effectuate the transfer pursuant to Treasury Regulation Section 1.457-10(b).~~

~~(b) Effect of Transfer. Upon the transfer of assets under this Section 12.02, the Plan's liability to pay benefits to the Participant or Beneficiary under this Plan shall be discharged to the extent of the amount so transferred for the Participant or Beneficiary.~~

~~(c) **Section 12.03. Plan-to-Plan Transfers to the Plan.** At the direction of the Employer, the Administrator may permit a class of Participants who are participants in another~~

~~eligible governmental plan under Code Section 457(b) to transfer assets to the Plan as provided in this Section. Such a transfer is permitted only if the other plan provides for the direct transfer of each Participant's interest therein to the Plan. The Administrator may require in its sole discretion that the transfer be in cash or other property acceptable to the Administrator. The Administrator and Vendor may require such documentation from the other plan as it deems necessary to effectuate the transfer in accordance with Code Section 457(e)(10) and Treasury Regulation Section 1.457-10(b) and to confirm that the other plan is an eligible governmental plan as defined in Treasury Regulation Section 1.457-2(f). The amount so transferred~~ Any amount transferred to the Plan under paragraph (b) shall be credited to the Participant's Transfer Account and shall be held, accounted for, administered and otherwise treated in the same manner as an Annual Deferral by the Participant under the Plan, except that the transferred amount shall not be considered an Annual Deferral under the Plan in determining the maximum deferral under Article V.

Section 13.02. ~~Section 12.04.~~ Permissive Service Credit Transfers.

(a) If a Participant is also a participant in a tax-qualified defined benefit governmental plan (as defined in Code Section 414(d)) that provides for the acceptance of plan-to-plan transfers with respect to the Participant, then the Participant may elect to have any portion of the Participant's Account Balance transferred to the defined benefit governmental plan. A transfer under this Section may be made before the Participant has had a Severance from Employment.

(b) A transfer may be made under this Section only if the transfer is either for the purchase of permissive service credit (as defined in Code Section 415(n)(3)(A)) under the receiving defined benefit governmental plan or a repayment to which Code Section 415 does not apply by reason of Code Section 415(k)(3).

~~**Section 12.05. Direct Transfers to this Plan.** Subject to the approval of the Administrator, this Plan shall accept cash transfers of Participants' accounts maintained under an eligible Section 457 plan directly to this Plan.~~

~~**Section 12.06. Representations.** With respect to receipt or transfer of account balances under this Article, the Board, Administrator and Vendor may rely upon representations made by either the Participant or the other Section 457 plan (made through those having apparent authority to make them) with respect to matters relevant for the transfer.~~

~~**Section 12.07. Plan Charges.** An Employee who has become a Participant through a transfer allowed by this Section shall be liable for Plan charges and expenses in the same manner and to the same extent as any other Participant notwithstanding the fact that all or part of his or her existing Account Balance may have been derived from contributions and earnings attributable to another plan. In addition, the Administrator may from time to time impose charges on said transfers to be deducted directly from the Participant's Transfer Account in this Plan once the transfer has occurred.~~

~~**Section 12.08. Effect of Elections.** Neither this Plan nor a new Participant making such a transfer shall be bound by any elections or designations (whether of a commencement date of distributions, or manner of distributions, designation of retirement age or beneficiaries) made under such other plan, but, instead, shall make and be bound by such elections and designations as are required under this Plan.~~

ARTICLE XIII.
DOMESTIC RELATIONS ORDERS

Section 13.01. General Provisions. ~~If authorized by the Administrator, domestic relations orders which satisfy the requirements of Code Sections 414(p)(1)(A)(i) and 414(p)(1)(B), this Article, and the procedures established by the Administrator for such orders may be considered Plan Approved Domestic Relations Orders ("PADROs") and may be honored by the Plan. If the Administrator determines to honor PADROs, this Article will apply to those PADROs. If the Administrator determines that certain PADROs will not be honored, then this Article shall not be interpreted as requiring that those PADROs be honored. The Administrator is authorized to establish and amend procedures for the determination of PADROs (including procedures for the resolution of disputes) consistent with the above-referenced Code provisions and this Article.~~

Section 13.02. Administration of Covered PADROs. ~~In administration of this Plan, the Administrator or the Vendors, as appropriate, may establish such procedures as enable any discrete interest of an alternate payee established under a PADRO to be separately accounted for and distributed. Any funds held under such a separate account shall not be distributed in any form or manner that would cause the Plan to become an ineligible plan under Code Section 457. This Article shall not be construed as requiring the Administrator or Vendors to recognize or make distributions under any PADRO whose validity is in doubt.~~

Section 13.03. Investments of Covered PADROs. ~~During any period that the issue of whether an order satisfies the applicable requirements of the Code and the procedures established by the Administrator is under consideration, the investment direction of the Participant with respect to the Participant's Accounts shall remain in effect, subject to a determination by the Administrator that such investment direction would be contrary to a final court order. After a determination has been made that a domestic relations order satisfies the applicable requirements of the Code and the procedures established by the Administrator and a separate Plan Account has been established for the alternate payee, the alternate payee shall **direct the investment of his or her** Plan Account. The Administrator shall direct the investment of an alternate payee's Account to a default investment pursuant to Section 8.04 when there is no valid investment direction on file. The alternative payee's Account shall be assessed administrative fees in the same amount and in the same manner as a Participant's Account.~~

Section 13.04. Distributions to Alternate Payees of Covered PADROs. ~~Distribution of benefits to the alternate payee shall commence **as soon as administratively practicable after** (i) a determination is made that the order satisfies the applicable requirements of the Code and the procedures established by the Administrator, and (ii) receipt by the Administrator of the Applicable Forms for the election of benefits. In the event of an alternative payee's death, any remaining benefits shall be payable solely to the alternate payee's estate, via the duly appointed and then currently serving executor of the alternative payee's estate.~~

ARTICLE XIV.
LOANS

Section 14.01. Loans. ~~A **Participant who is an Employee** may apply for and receive a loan **from his or her Vested Accounts** as provided in this Section. Any such loan may not be for an amount less than the minimum amount specified by the Vendor in accordance with the applicable law.~~

Section 14.02. Maximum Loan Amount.

~~(a) No loan to a Participant under the Plan may exceed the lesser of:~~

~~(1) \$50,000, reduced by the greater of (i) the outstanding balance on any loan from the Plan to the Participant on the date the loan is made or (ii) the highest outstanding balance on loans from the Plan to the Participant during the one-year period ending on the day before the date the loan is approved by the Vendor (not taking into account any payments made during such one-year period); or~~

~~(2) One-half of the value of the Participant's Vested Account Balance (as of the valuation date immediately preceding the date on which such loan is approved by the Vendor).~~

~~(b) For purposes of this Section, any loan from any other plan maintained by the Employer and any Related Employer shall be treated as if it were a loan made from the Plan, and the Participant's vested interest under any such other plan shall be considered a Vested interest under this Plan; provided, however, that the provisions of this subsection shall not be applied so as to allow the amount of a loan to exceed the amount that would otherwise be permitted in the absence of this subsection.~~

Section 14.03. Terms of Loan. The terms of the loan shall:

~~(a) require level amortization with payments not less frequently than quarterly throughout the repayment period, except that alternative arrangements for repayment may apply in the event that the borrower is on an bona fide unpaid leave of absence for a period not to exceed one year for leaves other than a qualified military leave within the meaning of Code Section 414(u) or for the duration of a leave which is due to qualified military service;~~

~~(b) require that the loan be repaid within five years unless the Participant certifies in writing to the Administrator that the loan is to be used to acquire any dwelling unit which within a reasonable time is to be used (determined at the time the loan is made) as a principal residence of the Participant; and~~

~~(c) provide for a reasonable interest rate established by the Vendor in accordance with the applicable law.~~

Section 14.04. Security for Loan; Default.

~~(a) Security. Any loan to a Participant under the Plan shall be secured by the pledge of the portion of the Participant's interest in the Plan invested in such loan.~~

~~(b) Default. In the event that a Participant fails to make a loan payment under this Section within 90 days after the date such payment is due, a default on the loan shall occur. In the event of such default, (i) all remaining payments on the loan shall be immediately due and payable, (ii) effective as of the first day of the calendar month next following the month in which any such loan default occurs, the interest rate for such loan shall be (if higher than the rate otherwise applicable) the rate being charged on loans from the Plan that are approved by the Administrator in the month in which such default occurs, (iii) no contributions shall be made on such Participant's behalf prior to the first payroll period that follows by 12 calendar months the date of repayment in~~

~~full of such loan, and (iv) the Participant shall be permanently ineligible for any future loans from the Plan.~~

~~In the case of any default on a loan to a Participant, the Administrator shall apply the portion of the Participant's interest in the Plan held as security for the loan in satisfaction of the loan on the date of Severance from Employment. In addition, the Administrator shall take any legal action it shall consider necessary or appropriate to enforce collection of the unpaid loan, with the costs of any legal proceeding or collection to be charged to the Account Balance of the Participant.~~

~~Notwithstanding anything elsewhere in the Plan to the contrary, in the event a loan is outstanding hereunder on the date of a Participant's death, his or her estate shall be his or her Beneficiary as to the portion of his or her interest in the Plan invested in such loan (with the Beneficiary or Beneficiaries as to the remainder of his or her interest in the Plan to be determined in accordance with otherwise applicable provisions of the Plan).~~

~~**Section 14.05. Repayment.** Repayment of a loan may be made by payroll deduction, by direct payment to the Plan, by direct debit of the Participant's checking account, or may such other means as the Vendor may permit. A Vendor may require the Participant, as a condition to receiving a loan, to enter into an irrevocable agreement authorizing the Employer to make payroll deductions from his or her Compensation as long as the Participant is an Employee and to transfer such payroll deduction amounts to the Trustee in payment of such loan plus interest. Repayments of a loan shall be made in equal installments (comprised of both principal and interest) each due date, with the first such repayment to be made as soon as practicable after the loan funds are disbursed; provided however, that a Participant may prepay the entire outstanding balance of his or her loan at any time; and provided, further, that if any payroll deductions cannot be made in full because a Participant is on ~~an unpaid leave of absence~~ or the Participant's paycheck is insufficient for any other reason, the Participant shall pay directly to the Plan the full amount that would have been deducted from the Participant's paycheck, with such payment to be made by the last business day of the calendar month in which in which the amount would have been deducted.~~

~~**Section 14.06. Special Relief for Loans.** Notwithstanding any other Sections of this Article, the Administrator may authorize the Vendors to observe the terms of any Internal Revenue Service guidance or Act of Congress regarding plan loans, which guidance or Act was issued or enacted in response to a natural disaster.~~

~~ARTICLE XIV.~~ **ARTICLE XV.** **PLAN ADMINISTRATION**

~~**Section 14.01.** **Section 15.01. Authority of the Administrator.** The Administrator shall have the authority to control and manage the operation and administration of the Plan. The Administrator shall have all power necessary or convenient to enable it to exercise its authority under the Plan. The Administrator may provide rules and regulations, not inconsistent with the provisions hereof, for the operation and management of the Plan, and may from time to time amend or rescind such rules or regulations. The Administrator is authorized to accept service of legal process for the Plan.~~

~~**Section 14.02.** **Section 15.02. Powers of the Administrator.** The Administrator shall have the power and discretion to construe and interpret the Plan, including any ambiguities, to~~

determine all questions of fact or law arising under the Plan, and to resolve any disputes arising under and all questions concerning administration of the Plan. The Administrator may correct any defect, supply any omission or reconcile any inconsistency in the Plan in such manner and to such extent as the Administrator may deem expedient and, subject to the Plan's claim procedures, the Administrator shall be the sole and final judge of such expediency. Benefits are payable under the Plan only if the Administrator, in its sole and absolute discretion, determines the benefits are payable under the provisions the Plan.

Section 14.03. ~~Section 15.03.~~ Delegation by Administrator.

(a) The Administrator may from time to time delegate in writing to a committee or any duly authorized officer certain of its fiduciary duties or other responsibilities under the Plan. Any such committee or officer delegated fiduciary duties shall be a fiduciary until the Administrator revokes such delegation. A delegation of the Administrator's duties or responsibilities may be revoked without cause or advance notice. To the extent permitted under applicable law, such committee or officer shall have the same power and authority with respect to such delegated fiduciary or other responsibilities as the Administrator has under the Plan. The Administrator shall not be liable for any act or omission of such fiduciary in carrying out such responsibilities.

(b) ~~(a)~~ The Administrator has designated the Vendors to be responsible for providing information to Participants regarding enrollment, ~~investment options~~ Investment Options, and performance; processing contributions, withdrawal requests, transfers, and changes in ~~investment options~~ Investment Options; providing record keeping services and such other services as provided for under agreements between the Vendors and the Administrator.

(a) ~~(b)~~ The Administrator may designate one of the Vendors or another service provider to provide for the collection and coordination of information relating to ~~unforeseeable emergency distribution~~ Unforeseeable Emergency Distribution, in-service distributions, loans, contribution limits, and any other administrative function under the Plan.

Section 14.04. ~~Section 15.04.~~ Fiduciary Insurance. Subject to State law, the Board may require the purchase of fiduciary liability insurance for any Plan fiduciary or fiduciaries to cover liability or losses occurring by reason of the act or omission of a fiduciary.

Section 14.05. ~~Section 15.05.~~ Employment of Consultants. The Administrator may employ one or more persons to render advice with regard to its responsibilities under the Plan.

ARTICLE XV. ~~ARTICLE XVI.~~
CLAIMS PROCEDURE

Section 15.01. ~~Section 16.01.~~ Requests for Information Concerning Eligibility, Participation and Contributions. Requests for information concerning eligibility, participation, contributions, or any other aspects of the operation of the Plan, and service of legal process, should be in writing and directed to the Administrator of the Plan. If a written request is denied, the Administrator shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Administrator and may submit issues and comments in writing to the Administrator. The Administrator shall provide to the Participant a written decision upon such request for review of a denied claim.

~~Section 15.02. Section 16.02. Requests for Information Concerning Investment Arrangements~~the Trust. Requests for information concerning the Trust and the terms, conditions, and interpretations thereof, claims thereunder, any requests for review of such claims, and service of legal process, should be in writing and directed to the Vendor. If a written request is denied, the Vendor shall, within a reasonable period of time, provide a written denial to the Participant. A Participant may request in writing a review of a claim denied by the Vendor and may submit issues and comments in writing to the Vendor. The Vendor shall provide to the Participant a written decision upon such request for review of a denied claim.

~~ARTICLE XVI~~ARTICLE XVII.
AMENDMENT OF THE PLAN AND TERMINATION

Section 16.01. ~~Section 17.01. Amendment and Termination of Plan.~~ The Board ~~may at any time amend this Plan with or without consent of the Participant (or any Beneficiary thereof). No amendment may be effected, however, if it removes Plan assets from the Trust hereunder, or causes Plan assets to be used for a purpose other than the exclusive benefit of Participants and their Beneficiaries. Any modification, alteration, or amendment of the Plan made in accordance with this Section may be made retroactively if deemed necessary or appropriate by the Board.~~shall have the right, in its sole and final discretion, to amend or terminate the Plan at any time and from time to time to any extent which it may deem advisable.

~~Section 17.02. Right to Suspend Deferrals. Suspension or termination of additional deferral of salary under the Plan generally, or under one or more Investment Options maintained by the Plan, shall not otherwise restrict or affect other provisions of this Plan. The Board, in its sole discretion, may suspend or terminate additional deferral of salary for (i) all Participants, or (ii) a class of Participants, or (iii) for one or more Investment Options maintained under the Plan.~~

Section 16.02. Restrictions on Amendments. The Plan may not be amended in a manner that violates any provision of the Code.

Section 16.03. ~~Section 17.03. Amendment for Eligible Plan Status.~~ It is the intent of the Board that the Plan shall be and remain an eligible plan under the provisions of Code Section 457 and that the Trust be exempt from tax under Code Section 457. The Board may make any modifications, alterations, or amendments to the Plan necessary to obtain and retain approval of the Secretary of the Treasury or his or her delegate as may be necessary to establish and maintain the status of the Plan as an eligible plan under the Code or other federal legislation, as now in effect or hereafter enacted, and the regulations issued thereunder. Any modification, alteration, or amendment of the Plan, made in accordance with this Section, may be made retroactively, if necessary or appropriate.

Section 16.04. Distribution Upon Termination of the Plan. The Board may provide that, in connection with a termination of the Plan, all Accounts shall be distributed. For purposes of distributing all assets from the Plan in the event of a Plan termination, (i) delivery of a fully paid individual insurance annuity contract, and/or (ii) distribution of an individual custodial account in kind, shall be treated as a distribution.

~~Section 17.04. Effective Date of Amendments. All amendments shall become effective on the date established by the Board. No amendments shall deprive any Participant of any of the~~

~~benefits to which the Participant is entitled under this Plan with respect to amounts credited prior to the effective date of the amendment.~~

~~ARTICLE XVIII.~~
~~TERMINATION OF THE PLAN~~

~~The Board may terminate the Plan at any time. In such an event, the Employer shall be responsible for directing distribution of all assets of the Trust to Participants, Beneficiaries or to a successor plan, as soon as administratively practicable after the termination of the Plan.~~

~~ARTICLE XVII.~~ ~~ARTICLE XIX.~~
MISCELLANEOUS

Section 17.01. ~~Section 19.01. Non-Assignability~~ Non-Alienation.

(a) ~~Except as provided in Article XIII, a~~ Participant's Account under the Plan shall not be liable for any debt, liability, contract, engagement, or tort of the Participant or his or her Beneficiary, nor subject to anticipation, sale, assignment, transfer, encumbrance, pledge, charge, attachment, garnishment, execution, alienation, or any other voluntarily or involuntarily alienation or other legal or equitable process, nor transferable by operation of law.

(b) Notwithstanding paragraph (a), the Plan shall comply with any judgment, decree or order ("domestic relations order") which establishes the right of an alternate payee within the meaning of Code Section 414(p)(8) to all or a portion of a Participant's benefit under the Plan to the extent that it is a "qualified domestic relations order" ("QDRO") under Code Section 414(p). The Vendor shall establish reasonable written procedures to determine whether a domestic relations order is a QDRO and to administer the distribution of benefits with respect to such orders, which procedures may be amended from time to time, and which shall be provided to Participants upon request. Notwithstanding any other provisions in the Plan, the Plan may make an immediate distribution to the alternate payee pursuant to a QDRO.

(c) ~~(b)~~ ~~Notwithstanding subsection paragraph~~ (a), the Plan shall offset from the benefit otherwise payable to a Participant or his or her Beneficiary such amounts as are permitted to be offset under a court order, civil judgment, or settlement agreement in accordance with Code Section 401(a)(13)(C).

Section 17.02. ~~Section 19.02.~~ Military Service.

(a) Notwithstanding any provisions of this Plan to the contrary, contributions, benefits, and service credit with respect to qualified military service shall be provided in accordance with USERRA, HEART, Code Section 414(u), and Code Section 401(a)(37). For purposes of this Section, "qualified military service" means any service in the uniformed services as defined in USERRA by any individual if such individual is entitled to reemployment rights under USERRA with respect to such service.

(b) A Participant whose employment is interrupted by qualified military service or who is on a leave of absence for qualified military service may elect to make Annual Deferrals upon resumption of employment with the Employer up to the maximum Annual Deferrals that the Participant could have elected during that period if the Participant's employment with the Employer had continued (at the same level of Compensation) without the interruption or leave,

reduced by the Annual Deferrals, if any, actually made for the Participant during the period of the interruption or leave. Except to the extent provided under Code Section 414(u), this right applies for the lesser of (i) five years following the resumption of employment or (ii) a period equal to three times the period of the interruption or leave. Such Annual Deferrals by the Participant may only be made during such period and while the Participant is reemployed by the Employer.

(c) Effective January 1, 2007, to the extent provided under Code Section 401(a)(37), in the case of a Participant whose employment is interrupted by qualified military service and who dies while performing qualified military service, the survivor of such Participant shall be entitled to any additional benefit (other than benefit accruals) provided under the Plan as if the Participant timely resumed employment in accordance with USERRA and then, on the next day, terminated employment on account of death.

(d) Effective January 1, 2009, differential wage payments within the meaning of Code Section 414(u)(12)(D) shall be treated as Compensation and Includible Compensation under the Plan.

Section 17.03. ~~Section 19.03.~~ Limitation of Rights and Obligations. Neither the establishment nor maintenance of the Plan, nor any amendment thereof nor any act or omission under the Plan or resulting from the operation of the Plan shall be construed:

(a) as conferring upon any Participant, Beneficiary or any other person a right or claim against the Administrator or Employer, except to the extent that such right or claim shall be specifically expressed and provided in the Plan;

(b) as creating any responsibility or liability of the Board, the Employer, or the Administrator for the validity or effect of the Plan;

(c) as a contract or agreement between the Board, the Employer, or the Administrator and any Participant or other person;

(d) as an agreement, consideration, or inducement of employment or as effecting in any manner or to any extent whatsoever the rights or obligations of the Employer or any Employee to continue or terminate the employment relationship at any time, except as otherwise provided under any applicable collective bargaining agreement; or

(e) as giving any Participant the right to be retained in the service of the Employer or to interfere with the right of the Employer to discharge any Participant or other person at any time; provided, however, that the foregoing will not be deemed to modify the provisions of any collective bargaining agreements which may have been entered into by the Employer with the bargaining representatives of any Participant.

Section 17.04. ~~Section 19.04.~~ Federal and State Taxes. It is intended that ~~Annual Deferrals~~ Contributions other than Roth Contributions under this Plan, plus any earnings thereunder, are excludable from gross income for federal and state income tax purposes until paid to Participants or Beneficiaries, and that Roth Contributions and earnings thereunder are excludable from gross income for federal and state income tax purposes when paid to Participants or Beneficiaries to the extent that they are Qualified Distributions. However, the Administrator does not guarantee that any particular federal or state income, payroll, or other tax consequence will occur as a result of participation in this Plan.

[Section 17.05.](#) ~~[Section 19.05.](#)~~ **Erroneous Payments.** If the Administrator or Vendor makes any payment that, according to the terms of the Plan and the benefits provided hereunder, should not have been made, the Administrator or Vendor may recover that incorrect payment, by whatever means necessary, whether or not it was made due to the error of the Administrator or Vendor, from the person to whom it was made, or from any other appropriate party. For example, if any such incorrect payment is made directly to a Participant, the Administrator or Vendor may deduct it when making any future payments directly to that Participant.

[Section 17.06.](#) ~~[Section 19.06.](#)~~ **Benefit Payment Issue Resolution.** The Administrator, or its designee, if in doubt regarding the correctness of its action with respect to a benefit payment, may direct suspension of payment until satisfied as to the correctness of the payment or the person to receive the payment. Alternatively, the Administrator, or its designee, may file, in any state court of competent jurisdiction, a suit, in the form it deems appropriate, for legal determination of the benefits to be paid and the persons to receive them. The Administrator, or its designee, may also bring a suit, or take other action as it deems appropriate, to resolve questions involving investment directions. The Administrator shall comply with the final order of the court in any such suit, and Participants and the Administrator shall be bound by such an order, insofar as it affects the benefits payable under this Plan, or the method or manner of payment.

[Section 17.07.](#) ~~[Section 19.07.](#)~~ **Release.** Any payments to any Participant shall, to the extent thereof, be in full satisfaction of the claim of such Participant being paid thereby and the Trustees or Administrator may condition payment thereof on the delivery by the Participant of the duly executed receipt and release in such form as may be determined by the Trustees or Administrator.

[Section 17.08.](#) ~~[Section 19.08.](#)~~ **Liability.** The Administrator shall not incur any liability in acting upon any notice, request, signed letter, telegram or other paper or document or electronic transmission believed by the Administrator to be genuine or to be executed or sent by an authorized person.

[Section 17.09.](#) ~~[Section 19.09.](#)~~ **Information Provided by the Participant.** Each Participant should provide to the Administrator at the time of initial enrollment, and later if there are any changes, any information necessary or advisable for the Administrator to administer the Plan.

[Section 17.10.](#) ~~[Section 19.10.](#)~~ **Family Medical Leave Act.** Notwithstanding any provisions of this Plan to the contrary, Contributions and benefits with respect to qualified leave will be provided in accordance with the Family Medical Leave Act of 1993, 29 U.S.C. Section 2601 et. seq.

[Section 17.11.](#) ~~[Section 19.11.](#)~~ **Payments to Minors or Incompetents.** If a Participant or Beneficiary entitled to receive any benefits hereunder is a minor or is determined to be legally incapable of giving valid receipt and discharge for such benefits by a court or by the Administrator, benefits shall be paid to such person as the Administrator may designate for the benefit of such Participant or Beneficiary. Such payments shall be considered a payment to the Participant or Beneficiary and shall, to the extent made, be deemed a complete discharge of any liability for such payments under the Plan.

Section 17.12. ~~Section 19.12.~~ Missing or Lost Participants. In the event that the Administrator does not have current contact information for or is unable to identify a Participant or Beneficiary under the Plan, the Administrator shall make reasonable attempts to determine the address and identity of the Participant or Beneficiary entitled to benefits under the Plan. A reasonable attempt to locate a missing or lost Participant or Beneficiary shall include (i) providing notice to the Participant at the Participant's last known address via certified mail; (ii) determining whether the Employer's records or the records of another plan maintained by the Employer has a more current address for the Participant; (iii) attempting to contact any named Beneficiary of the Participant; and (iv) searching for the missing Participant via free electronic search tools, such as Internet search engines, public record databases, obituaries, and social media. If such search methods are unsuccessful, based on the facts and circumstances, the Administrator may use other search methods, including using Internet search tools, commercial locator services, credit reporting agencies, information brokers, investigation databases, and analogous services that may involve charges. The Administrator may charge missing Participants and Beneficiaries reasonable expenses for efforts to find them.

Section 17.13. ~~Section 19.13.~~ Indemnification. The Employer shall satisfy any liability actually and reasonably incurred by any members of the Board or any person to whom any power, authority or responsibility of the Administrator is delegated pursuant to Section ~~15.03~~ 14.03, except a Vendor or other service provider. These liabilities include expenses, attorney's fees, judgments, fines, and amounts paid in connection with any threatened, pending or completed action, suit or proceeding related to the exercise (or failure to exercise) of this authority. This is in addition to whatever rights of indemnification exist under the regulations or by-laws of the Employer, under any provision of law, or under any other agreement; provided, however, that the Employer will not satisfy any such liability to the extent that the person did not act in good faith.

Section 17.14. ~~Section 19.14.~~ No Reversion. Under no circumstances or conditions will any ~~Annual Deferrals~~ Contributions revert to, be paid to, or inure to the benefit of, directly or indirectly, the Employer, but shall be held for the exclusive purpose of providing benefits to Participants and their Beneficiaries and defraying the reasonable expenses of administering the Plan. However, if ~~Annual Deferrals~~ Contributions are made by the Employer by a good faith mistake of fact, such amount may be returned to the Employer within one year of the date that they were made to the Plan.

Section 17.15. ~~Section 19.15.~~ Finality of Determination. All determinations with respect to crediting of service under the Plan are made on the basis of the records of the Employer, and all determinations made are final and conclusive upon Employees, former Employees, and all other persons claiming a benefit under the Plan.

Section 17.16. ~~Section 19.16.~~ Counterparts. The Plan may be executed in any number of counterparts, each of which shall be deemed to be an original. All counterparts shall constitute but one and the same instrument and shall be evidenced by any one counterpart.

IN WITNESS WHEREOF, the Board has caused this amended and restated Plan to be executed by its duly authorized representative as of the date written below, but effective as of January 1, ~~2020~~2024.

**UNIVERSITY SYSTEM OF MARYLAND
BOARD OF REGENTS**

Signature

Printed

Title

Date

UNIVERSITY SYSTEM OF MARYLAND
DEFERRED COMPENSATION PLAN AND TRUST

APPENDIX A
APPROVED VENDORS

The current selection of Vendor(s) is not intended to limit future additions or deletions of Vendor(s). The Administrator from time to time may add or delete Vendor(s) which shall be effective on the date adopted by the Administrator and shall be reflected in a revised Appendix A.

1.1 **Approved Vendors**

~~As of January 1, 2020, the~~The Board has approved the following Vendors under the Plan, which remain approved as of January 1, 2024:

- TIAA
- Fidelity Investments

1.2 **Former Vendors**

As of January 1, 2008, ~~the~~AIG VALIC is a Former Vendor under the Plan ~~is AIG VALIC~~.

Summary report:	
Litera Compare for Word 11.5.0.74 Document comparison done on 9/3/2024 9:24:32 AM	
Style name: IM Default	
Intelligent Table Comparison: Active	
Original DMS: nd://4895-3632-4509/1/USM- 2024 Deferred Compensation 457(b) Plan and Trust.doc	
Modified DMS: nd://4895-3632-4509/3/USM- 2024 Deferred Compensation 457(b) Plan and Trust.doc	
Changes:	
Add	740
Delete	779
Move From	126
<u>Move To</u>	126
<u>Table Insert</u>	0
Table Delete	0
<u>Table moves to</u>	0
Table moves from	0
Embedded Graphics (Visio, ChemDraw, Images etc.)	0
Embedded Excel	0
Format changes	0
Total Changes:	1771

TOPIC: The University of Baltimore: Regional Tuition for MBA program at USM Hagerstown

DATE OF COMMITTEE MEETING: December 4, 2024

SUMMARY: The University of Baltimore (UBalt) plans to launch an in-person MBA program in Fall 2025 and is requesting approval to extend in-state tuition rates to residents of select counties: Morgan, Berkeley, and Jefferson in West Virginia, and Fulton, Franklin, and Adams in Western Pennsylvania. This request aligns with UBalt's marketing efforts for the Fall 2025 admissions cycle and is submitted in advance of the FY 2026 tuition and fee approval process to support timely recruitment.

The UBalt MBA offering at USMH aims to serve students who have earned a bachelor's degree, including working professionals from different fields looking for career advancement. Currently, no other institutions offer an MBA program at USMH, and there is a demand for professionals to advance their educational standing in the region and beyond.

The proposal is distinctive as it offers a face-to-face choice for students in the Hagerstown area who prefer this modality. All required courses will be offered in a fully face-to-face or hybrid model, with most of the specialization and foundation courses available online.

Students in the MBA program will complete between 36-48 credit hours in total. MBA specializations include cybersecurity and organizational resilience, data analysis, digital business, entrepreneurship and innovation, finance, global management, health care management, leadership and management, marketing, and public-sector management.

The existing MBA program, within the Merrick School of Business, is inspired by real-world business challenges, empowers students to build their own focus or specialization, and is internationally accredited by AACSB. Through course study, students learn to manage innovation and strategy, lead and manage people, interface with external stakeholders, manage the value chain, manage performance and risk, and leverage technology and business intelligence. The program helps students advance their careers and can be applied to any industry field. Potential employers include firms in marketing, accounting, finance, government contracting, health care, and supply chain.

As background, the Board of Regents has previously approved in-state tuition rates for students from designated areas outside Maryland enrolled in graduate programs, including doctoral and JD, at the Baltimore campus. These areas include the District of Columbia, select counties and cities in Northern Virginia, specific counties in Southern Pennsylvania, and all counties in Delaware, allowing out-of-state students in these regions to pay regional (in-state) tuition rates. This request seeks to build on that strategy by supporting enrollment growth in the MBA program offered at USMH through competitive tuition options, with no expected impact on Maryland resident applicants.

ALTERNATIVE(S): The Board may elect to deny this request.

FISCAL IMPACT: No fiscal impact is anticipated, as UBalt does not expect enrollment of West Virginia or Pennsylvania residents without regional tuition rates.

CHANCELLOR'S RECOMMENDATION: That the Committee on Finance recommend the Board of Regents approve regional tuition rates for residents of Morgan, Berkeley, and Jefferson counties in West Virginia, and Fulton, Franklin, and Adams counties in Western Pennsylvania, for the University of Baltimore's Merrick School of Business MBA program at USMH. The Chancellor shall have the authority to make any adjustments as necessary, consistent with existing board policies and guidelines, with any changes reported back to the Board.

COMMITTEE RECOMMENDATION: RECOMMEND APPROVAL

DATE: 12/4/24

BOARD ACTION:

DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

**UBalt MBA @ USM Hagerstown Proposal:
In-State Tuition for residents from Morgan, Berkley, and Jefferson counties (West Virginia) and Fulton,
Franklin, and Adams counties (Pennsylvania)**

Goal:

UBalt will offer an in-person MBA program starting in Fall 2025. Our goal is to improve access and affordability for West Virginia and Western Pennsylvania residents from the six counties bordering Maryland by providing in-state tuition.

UBalt MBA program offering, at USMH, aims to serve students who have earned a bachelor's degree, including working professionals from different fields looking for career advancement. All required courses will be offered in a fully face-to-face or hybrid model, with most of the specialization and foundation courses available online.

UBalt offers the MBA program to satisfy societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education. This initiative can affect local and regional economic development, workforce enhancement, and the broader societal fabric. Hagerstown's strategic location near the borders of Maryland, Virginia, West Virginia, and Pennsylvania, as well as being within driving distance of Washington D.C. and Baltimore, positions it as a potential hub for economic growth. These exciting economic developments in Hagerstown's vicinity as well as USMH strategic location near major interstates suggest that the demand for highly qualified managers in USMH's footprint is poised to grow. It is reported that only 22% of the population of Washington County, where USMH is located, have a bachelor's or higher degree against a national average of 38%. This suggests that the area has a potential deficit of well-educated managers. Thus, introducing an MBA program here could catalyze this potential by equipping local professionals with advanced business skills. This would not only enhance the region's talent pool but also attract new businesses, fostering a more vibrant economic environment. For minority and disadvantaged groups, this means more job opportunities and pathways to upward mobility. The accessibility of graduate-level business education is crucial for breaking cycles of disadvantages and promoting diversity within the professional sphere. Educational institutions open doors to individuals who might face barriers to pursuing such education, whether due to geographic isolation, economic hardship, or both. This effort directly supports minority and disadvantaged students, offering them the tools needed for professional and personal advancement. The diverse industrial base of Hagerstown and Washington County, encompassing manufacturing, healthcare, logistics, and more, stands to benefit significantly from a locally tailored MBA program. For example, healthcare specialization in UBALT's MBA program could significantly help train managers of the surrounding area's medical facilities. Similarly, UBALT MBA's Finance specialization could help develop skills of employees in real estate and construction industry. Our entrepreneurship specialization could help foster small local business creation which could in term help stem potential population drain of the younger area residents to larger locales such as Washington DC, Pittsburgh, and Baltimore.

Objective/Desired Outcome:

Although it is not possible to estimate the number of WV and PA residents that may enroll if in-state tuition is offered, we are confident that offering in-state tuition will increase enrollment while improving access and affordability for West Virginia and Western Pennsylvania residents from the six counties bordering Hagerstown, Maryland.

Impact on In-State Applicants:

For FY2017, the Board of Regents approved a regional tuition rate for specific UBalt graduate programs, offering in-state tuition to students who live in the District of Columbia, Northern Virginia (specific counties/cities), Southern Pennsylvania (specific counties) and Delaware (all counties). For FY2019, the Board approved a regional tuition rate for the School of Law JD program. For FY2023, the Board approval regional tuition for both doctoral programs. For these requests, our goal is enrollment growth from these geographic areas by providing more competitive tuition rates and we expect no impact on in-state applicants.

TOPIC: University System of Maryland: Report on FY 2024 Procurement Contracts

COMMITTEE: Finance

DATE OF COMMITTEE MEETING: December 4, 2024

SUMMARY: The USM Policy on Approval of Procurement Contracts requires that contracts of \$1 million to \$5 million, and emergency and expedited procurement contracts of \$5 million or more, shall be reported to the Committee on Finance annually.

Attached is the report of the procurement contracts awarded during Fiscal Year 2024 (July 1, 2023 - June 30, 2024). There was one report of an emergency procurement during this reporting period for the provision of food for the University of Maryland, College Park. As provided in the policy, the report does not include construction contracts for capital projects approved by the Board of Regents, sponsored research/education contracts and grants, and contracts pertaining to interests in real property.

Ninety-two contracts have been awarded that meet the reporting requirements totaling \$197.6 million. Of the total dollars awarded, 35% of the contracts were awarded to Maryland firms. The MBE participation on these contract awards was 8%.

ALTERNATIVES: This is an information item.

FISCAL IMPACT: This is an information item.

CHANCELLOR'S RECOMMENDATION: This is an information item.

COMMITTEE RECOMMENDATION: RECEIVED FOR INFORMATION

DATE: 12/4/24

BOARD ACTION:

DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

**USM Procurements Between \$1 million and \$5 million
For Fiscal Year 2024**

<u>Inst.</u>	<u>Description of Procurement</u>	<u>Category</u>	<u>Method</u>	<u>Award</u>	<u>Amount</u>	<u>Fund Source</u>	<u>In-State</u>	<u>% MBE</u>
BSU	Brand Marketing Services	Services	Competitive Sealed Proposals	EFK Group, LLC	\$2,661,411	Current Unrestricted	No	0%
FSU	Performing Art Center Roof Replacement	Maintenance	Cooperative Agreement	Garland/DBS	\$3,259,069	FY2023 General Funds	No	1%
FSU	Fine Arts/Dunkle Hall Building HVAC Renovations	Maintenance	Competitive Sealed Proposal	The Efficiency Network	\$2,769,040	FY2023 General Funds	No	3%
FSU	Library HVAC Replacement	Maintenance	Cooperative Agreement	Trane, Inc	\$1,571,752	Plant Funds	No	5%
TU	FY 24 Campus Network Refresh for cisco equipment	IT Supplies/Equipment	Cooperative Agreement	DISYS Solutions, Inc.	\$1,982,886	Plant Funds	Yes	0%
TU	Towson University - TU 2338: Glen Towers Generator Replacement	Maintenance	Task Order: UMB On-Call GC	Brawner Builders, Inc.	\$2,114,346	Plant Funds/Auxiliary	No	35%
TU	TU-2420- Douglass House Partial VRF Replacement	Maintenance	Cooperative agreement/JOC	Centennial Contractors Enterprises	\$2,824,057	Plant Funds/Auxiliary	No	18%
UMB	Dental Equipment - 1000019250	Supp & Equip	Cooperative Agreement	Henry Schein Inc	\$4,588,061	Plant Funds	No	0%
UMB	MCCBL SSW New Bldg. - 1000014789	Architecture	Competitive Sealed Proposal	Ballinger	\$4,509,690	MCCBL	No	25%
UMB	SOM HSF1 Valve & Reheat Coil Replacement - 1000019085	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$4,300,110	Plant Funds	Yes	30%
UMB	SOD Clinic & Simulation refresh - 1000018215	Maintenance	College Park On Call CM	James G Davis Construction Corp	\$4,261,168	Institutional Funds	Yes	30%
UMB	ADEC simulator equipment for simulation labs - 1000019125	Supp & Equip	Cooperative Agreement	Henry Schein Inc	\$4,092,176	Plant Funds	No	0%
UMB	CRM to replace donor and alumni - 1000020062	IT Services	Competitive Sealed Proposal	Blackbaud Inc	\$3,981,355	State Operating	No	0%
UMB	A&F Lexington RTU replacement HVAC - 1000019009	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$3,919,548	Plant Funds	Yes	3%
UMB	382 South chill water loop analysis - 1000019154	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$3,894,053	Plant Funds	Yes	30%
UMB	PAYGO Davidge Hall roof repair - 1000017621	Maintenance	Competitive Sealed Proposal	The Christman Company	\$3,893,242	General Funds	No	5%
UMB	SOM IHV Chiller replacement - 1000018579	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$3,362,628	Plant Funds	Yes	7%
UMB	A&F Saratoga replacement of 3 RTU and VAV conversion - 1000018779	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$3,079,065	Plant Funds	Yes	8%
UMB	Donaldson Brown Center renovation - 1000016126	Maintenance	On Call GC	Emjay Engineering & Construction Co Inc	\$2,138,000	Plant Funds	Yes	12%
UMB	A&F Saratoga Roof Replacement - 1000019573	Maintenance	Cooperative Agreement	Bollinger, Michael J Co Inc Db Bollinger Bros Roofing Contractors	\$2,097,700	Academic Revenue Bonds	Yes	10%
UMB	SON new roof replacement - 1000019297	Maintenance	Cooperative Agreement	Patuxent Roofing And Contracting LLC	\$2,008,673	Plant Funds	Yes	16%
UMB	SON chiller replacement - 1000018632	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$1,953,827	Plant Funds	Yes	27%
UMB	HH Mechanical Infrastructure Upgrades - 1000019327	Engineering	Rotation - On Call M/E Medical	Burdette, Koehler, Murphy	\$1,864,336	Institutional Funds	Yes	30%
UMB	SOM IHV heating system replacement - 1000016194	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$1,776,134	Plant Funds	Yes	30%
UMB	SOM campus air compressor replacement - 1000018865	Maintenance	On Call Mechanical	Emjay Engineering & Construction Co In	\$1,663,269	Plant Funds	Yes	30%
UMB	SOM HH 1st floor GPILS Classroom renovation - 1000017651	Construction	On Call GC	Brawner Builders, Inc.	\$1,534,600	Plant Funds	Yes	30%
UMB	8th renewal contract 88170 ATC/BAS UMB - 1000020201	Maintenance	Competitive Sealed Proposal	Siemens Industry Inc	\$1,512,440	State Operating	Yes	0%
UMB	CY24 Journal subscriptions - 1000015777	Services	Cooperative Contract	Ebsco Industries Inc Db Ebsco Informat	\$1,500,000	State Operating	No	0%
UMB	SOM BRB Gross Anatomy Lab renovation - 1000017206	Construction	On Call GC	Emjay Engineering & Construction Co In	\$1,434,900	MCCBL	Yes	30%
UMB	SOD AiM Asset - 1000015724	Maintenance	Competitive Sealed Proposal	Siemens Industry Inc	\$1,414,516	State Operating	Yes	0%
UMB	O&M HSL Chiller Replacement - 1000018452	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$1,378,759	Plant Funds	Yes	19%
UMB	Water heater - steam semi instantaneous renewal install - 1000016058	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$1,360,813	Plant Funds	Yes	30%
UMB	O&M Lexington heat exchanger and perimeter heat renewal - 1000016307	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$1,262,961	Plant Funds	Yes	30%
UMB	Axon body warn camera - 1000017392	IT Sup/Equip	Cooperative Agreement	Axon Enterprises Inc	\$1,199,867	State Operating	No	0%
UMB	PM of campus chillers CY2024 - 1000017964	Maintenance	Cooperative Agreement	Boland Trane Services, Inc	\$1,199,833	State Operating	Yes	0%
UMB	SOP south mechanical utility distribution replacement - 1000018288	Maintenance	On Call Mechanical	Emjay Engineering & Construction Co In	\$1,026,355	Plant Funds	Yes	20%

**USM Procurements Between \$1 million and \$5 million
For Fiscal Year 2024**

<u>Inst.</u>	<u>Description of Procurement</u>	<u>Category</u>	<u>Method</u>	<u>Award</u>	<u>Amount</u>	<u>Fund Source</u>	<u>In-State</u>	<u>% MBE</u>
UMB	620 Lexington roof replacement - 1000019572	Maintenance	Cooperative Agreement	Bollinger, Michael J Co Inc Db Bollinger Bros Roofing Contractors	\$1,001,800	Academic Revenue Bonds	Yes	10%
UMBC	University Commons and Biology Bldg. Elevator Modernization	Maintenance	Task Order: UMB On Call GC	Brawner Builders	\$2,966,350	ARB, PAYGO, Operating	Yes	5%
UMBC	Biology Bldg. Lecture Hall 1 Renovations	Maintenance	Task Order: UMB On Call GC	AR Marani	\$2,231,600	ARB, Operating	Yes	10%
UMBC	Harbor Hall Courtyard	Maintenance	Competitive Sealed Proposal	Plano Coudon	\$1,837,500	Institutional	Yes	21%
UMES	Management of Food Dining Services	Services	Competitive Sealed Proposal	Thompson Hospitality	\$4,858,679	Auxiliary Unrestricted	No	4%
UMES	Electrical Energy	Commodity	Cooperative Agreement	Washington Gas Energy Services	\$3,000,000	State Unrestricted	No	0%
UMES	Natural Gas Supply Transport & Delivery	Commodity	Intergovernmental Contract	Maryland Environmental Services	\$2,000,000	Facilities Unrestricted	Yes	0%
UMES	Natural Gas Supply Payments for FY22 were made in FY23	Commodity	Intergovernmental Contract	MD Environmental Services	\$1,142,808	Facilities Unrestricted	Yes	0%
UMES	Fee Management and Media Buys	Services	Competitive Sealed Proposal	TBC, Inc	\$1,500,000	State Unrestricted	Yes	0%
UMGC	Call Center Services #92000 7/1/2023 to 6/30/2026	IT Services	Competitive Sealed Proposal	Zeta Global Corporation	\$4,740,000	Current Unrestricted	No	2%
UMGC	PeopleSoft Hosted Managed Oracle Services TOC #92106 5/17/2024 to 6/30/2027	IT Services	Cooperative Agreement	ERP Analysts, Inc.	\$1,908,000	Current Unrestricted	No	0%
UMGC	Virtual Learning Environmental #91852 FY24	IT Software/Hardware	Cooperative Agreement	The University of Arizona	\$2,020,390	Current Unrestricted	No	0%
UMGC	Instructional Design and Development - Online Education Services	IT Services	Sole Source	iDesign Studio LLC	\$1,674,000	Current Unrestricted	No	0%
UMGC	Microsoft Enterprise Software Agreement Annual True-up MEEC	IT Software/Hardware	Cooperative Agreement	Bell Techlogix, Inc.	\$1,337,715	Current Unrestricted	No	0%
UMGC	IT Infrastructure Technology Assessment, Development, Enhancement	IT Services	HIEDA	UMGC Ventures, Inc.	\$1,988,813	Current Unrestricted	Yes	0%
UMGC	Five9 Subscription FY24	IT Supplies/Equipment	HIEDA	UMGC Ventures, Inc.	\$1,750,000	Current Unrestricted	Yes	0%
UMGC	IT Student Help Desk FY24	IT Services	HIEDA	UMGC Ventures, Inc.	\$1,600,000	Current Unrestricted	Yes	0%
UMGC	HelioCampus Services - Data Analysis Services FY24	IT Services	HIEDA	HelioCampus, Inc.	\$3,405,706	Current Unrestricted	Yes	0%
UMGC	Workday Master Services Agmt Subscription - Year 1	IT Supplies/Equipment	Sole Source	Workday, Inc.	\$1,524,356	Current Unrestricted	No	0%
UMGC	Salesforce CRM Licensing FY24	IT Supplies/Equipment	Sole Source	Salesforce.com, Inc.	\$1,208,943	Current Unrestricted	No	0%
UMGC	PeopleSoft Hosted Managed Services FY24 TOC #91894	IT Services	Cooperative Agreement	Sierra-Cedar, LLC	\$1,454,280	Current Unrestricted	No	0%
UMGC	Recruitment Process Outsourcing Services FY24	IT Services	Competitive Sealed Proposal	Allegis Global Solutions	\$1,470,254	Current Unrestricted	No	4%
UMGC	Facilities and Maintenance Services - 91268 - Staffing Fee FY24	Services	Competitive Sealed Proposal	AAA Complete Building Services	\$2,116,034	Current Unrestricted	No	15%
UMGC	Facilities and Maintenance Services - 91268 - Reimbursables FY24	Services	Competitive Sealed Proposal	AAA Complete Building Services	\$2,116,034	Current Unrestricted	No	15%
UMGC	Facilities and Maintenance Services - 91268 - Chiller Project 1 & 3	Services	On-call General Contracting TO	AAA Complete Building Services	\$1,142,400	Current Unrestricted	No	15%
UMCP	Architect Contract-UMD- Atlantic Bldg.: Quantum & HVAC upgr	Architectural	A/E Act	Whitman Requardt and Assoc. LLP	\$1,290,930	MCCBL	No	29%
UMCP	Architect Contract-FSU- Regional Science & Educ. Center	Architectural	A/E Act	GWWO Inc./Architects	\$1,096,684	Foundation Funds	No	29%
UMCP	Piping at Shoemaker Hall	Building Maintenance	Competitive Sealed Proposal	M & M Welding & Fabricators	\$1,080,200	Institutional Funds	No	0%
UMCP	On-Call LGR Mechanical: DOAS Upgrade @ #8	Building Maintenance	Competitive Sealed Proposal	W. L. Gary Company, Inc.	\$1,194,600	Institutional Funds	No	0%
UMCP	BSU- Tubman Hall HVAC	Building Maintenance	Cooperative Agreement	Adrian L Merton Incorporated	\$1,379,579	Institutional Funds	No	11%
UMCP	Eppley: AHU Replacement	Building Maintenance	Competitive Sealed Proposal	W. L. Gary Company, Inc.	\$1,020,196	Institutional Funds	No	0%
UMCP	On-Call Large Mechanical Contract Task Order:FCU repl ANNE flrs1-4	Building Maintenance	Competitive Sealed Proposal	M & M Welding & Fabricators	\$1,110,800	Institutional Funds	No	0%
UMCP	On-Call Elevator Contract: Mods @ N CENT	Building Maintenance	Competitive Sealed Proposal	Elevator Control Service	\$1,068,587	Institutional Funds	No	0%
UMCP	Francis Scott Key Bldg.: Window Replacement	Building Maintenance	Competitive Sealed Proposal	Brawner Builders, Inc.	\$1,105,617	Institutional Funds	No	25%
UMCP	Renovation Services for 8 GPC Projects	Building Maintenance	Competitive Sealed Proposal	North Point Builders Inc.	\$1,403,291	Institutional Funds	No	29%
UMCP	Shoemaker 2nd Floor Renovations	Building Maintenance	Competitive Sealed Proposal	Kalmia Construction Co. Inc.	\$1,041,627	Institutional Funds	No	29%
UMCP	INRIX - MassDOT Task Order	IT Services	Competitive Sealed Proposal	Inrix Incorporated	\$2,780,178	Institutional Funds	No	0%

**USM Procurements Between \$1 million and \$5 million
For Fiscal Year 2024**

<u>Inst.</u>	<u>Description of Procurement</u>	<u>Category</u>	<u>Method</u>	<u>Award</u>	<u>Amount</u>	<u>Fund Source</u>	<u>In- State</u>	<u>% MBE</u>
UMCP	INRIX Trip Paths Data- Contract #:10953	IT Services	Competitive Sealed Proposal	Inrix Incorporated	\$1,400,000	Institutional Funds	No	0%
UMCP	INRIX- GDOT Task Order	IT Services	Competitive Sealed Proposal	Inrix Incorporated	\$1,018,400	Institutional Funds	No	0%
UMCP	StreetLight Data, Inc.-NCDOT Task Order	IT Services	Competitive Sealed Proposal	Streetlight Data, Inc.	\$2,412,808	Institutional Funds	No	0%
UMCP	INRIX- GNRC Task Order	IT Services	Competitive Sealed Proposal	Inrix Incorporated	\$1,203,108	Institutional Funds	No	0%
UMCP	Reseller-Adobe Enterprise License Agreement	IT Software/Hardware	Competitive Sealed Proposal	Zones LLC	\$1,084,491	Institutional Funds	No	0%
UMCP	Active Learning Classrooms in the College of Business with required technology	IT Software/Hardware	Cooperative Purchase (MEEC)	Data Networks of America Inc.	\$1,119,287	Institutional Funds	No	0%
UMCP	MEEC Contract purchase of Microsoft enterprise products	IT Software/Hardware	Cooperative Agreement	Bell Techlogix Inc.	\$1,568,996	Institutional Funds	No	0%
UMCP	MEEC Contract purchase of FY24 Summer Audio Visual Equipment	IT Software/Hardware	Cooperative Agreement	Avi-Spl LLC	\$1,150,153	Institutional Funds	No	0%
UMCP	MEEC Contract Purchase-DELL EMC-XE9640 Power Edge	IT Software/Hardware	Cooperative Agreement	Cambridge Computer Services Inc.	\$1,082,448	Institutional Funds	No	0%
UMCP	INRIX-Penn DOT Task Order	Services	Competitive Sealed Proposal	Inrix Incorporated	\$1,369,828	Institutional Funds	No	0%
UMCP	Streetlight- Tennessee DOT-Task Order	Services	Competitive Sealed Proposal	Streetlight Data, Inc.	\$2,756,569	Institutional Funds	No	0%
UMCP	INRIX - Georgia DOT Task Order	Services	Competitive Sealed Bid	Inrix Incorporated	\$2,071,900	Institutional Funds	No	0%
UMCP	Housekeeping VMI Contract	Services	Competitive Sealed Proposal	Daycon Products Co.	\$3,954,000	Institutional Funds	No	0%
UMCP	MCE Furniture floors 1,2,3-BSU-Communication Arts & Humanities Bldg.	Supplies & Equipment	Preference Purchase	Maryland Correctional	\$3,252,619	MCCBL	No	0%
UMCP	Cooper Booth-Items for Resale	Supplies & Equipment	Sole Source	Cooper Booth Wholesale Co.	\$1,500,000	Institutional Funds	No	0%
UMCP	Pepsi: Purchase Order for beverage purchases from pouring rights contract	Supplies & Equipment	Competitive Sealed Proposal	Bottling Group LLC	\$2,850,000	Institutional Funds	No	0%
UMCP	Coastal Sunbelt produce contract	Supplies & Equipment	Sole Source	Coastal Sunbelt Produce, LLC	\$3,750,000	Institutional Funds	No	0%
UMCP	Contract Procurement-Materials for the Campus Network Refresh	Supplies & Equipment	Cooperative Agreement	Graybar Electric	\$2,151,730	Institutional Funds	No	0%
UMCP	Emergency Food Contract	Supplies & Equipment	Emergency	US Foods	\$4,900,000	Institutional Funds	Yes	0%

Cover Memo - Minutes

TOPIC: Approval of Meeting Minutes from October 30, 2024 Public and Closed Sessions

COMMITTEE: Committee on Governance and Compensation

DATE OF MEETING: December 4, 2024

SUMMARY: The Committee on Governance and Compensation will review and approve meeting minutes from October 30, 2024 Public and Closed sessions.

ALTERNATIVE(S): None.

FISCAL IMPACT: None.

CHANCELLOR'S RECOMMENDATION: This is an information item.

COMMITTEE ACTION: DATE: December 4, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Denise Wilkerson; dwilkerson@usmd.edu; 410-576-5734



USM Board of Regents
Committee on Governance and Compensation
Minutes from Public Session
October 30, 2024
Zoom

Minutes of the Public Session

Regent Leggett called the meeting of the Governance and Compensation Committee of the University System of Maryland Board of Regents to order in public session at 8:31 a.m. on Wednesday, October 30, 2024 via Zoom.

Those in attendance included Regents Leggett, Gooden, Lewis, Wood, Hur, McMillen, and Smarick; Chancellor Perman; Senior Vice Chancellor Herbst; Vice Chancellors Sandler and Masucci; AAGs Bainbridge and Langrill; and Ms. Wilkerson, Ms. Perry, Ms. Roxas, Mr. Samuel, and Ms. Gartner.

1. **Approval of the Meeting Minutes from September 16, 2024 and May 22, 2024.** The Regents reviewed and approved the meeting minutes. (Moved by Regent Leggett, seconded by Regent Lewis; unanimously approved).
2. **Approval of Committee Charges.** The Regents reviewed and approved the committee charges for FY 24-25 for the Education Policy, Student Life, and Safety; Finance; and Research and Economic Development committees. (Moved by Regent Leggett, seconded by Regent Gooden; unanimously approved).
3. **Review of Policy Library Matrix.** The Regents reviewed the policy library matrix which depicts the review and amendment dates of the USM Board of Regents policies.
4. **Convene to Closed Session.** Regent Leggett read the closing statement on matters exempted from the Open Meetings Act, under the General Provisions Article, §3-305(b). (Moved by Regent Lewis, seconded by Regent McMillen; unanimously approved).

The public session meeting adjourned at 8:39 a.m.



USM Board of Regents
Committee on Governance and Compensation
Minutes from Closed Session
October 30, 2024
Zoom

Minutes of the Closed Session

Regent Leggett called the meeting of the Governance and Compensation Committee of the University System of Maryland Board of Regents to order in closed session at 8:40 a.m. on Wednesday, October 30, 2024 via Zoom.

Those in attendance included Regents Leggett, Gooden, Lewis, Wood, Hur, McMillen, and Smarick; Chancellor Perman; Senior Vice Chancellor Herbst; Vice Chancellors Sandler and Masucci; AAGs Bainbridge and Langrill; and Ms. Wilkerson, Ms. Perry, Ms. Roxas, Mr. Samuel, and Ms. Gartner.

- 1. Collective Bargaining Update.** The Regents were provided with the status of collective bargaining negotiations at each USM institution. (§3-305(b)(9)).
- 2. Addendum to the Presidents Regarding Report.** The Regents reviewed an addendum to the USM Presidents' appointment letters. (§3-305(b)(1)).
- 3. Review of Certain Contracts and Employment Agreements.** The Regents reviewed personnel contracts from UMCP and TU, subject to review under Policy VII-10.0 (§3-305(b)(1)).
- 4. Update on a Personnel Matter** The Regents were provided with an update on a personnel matter. (§3-305(b)(1)).

The meeting adjourned at 10:01 a.m.

Cover Memo - Committee Charges

TOPIC: Approval of Committee Charges

COMMITTEE: Committee on Governance and Compensation

DATE OF MEETING: December 4, 2024

SUMMARY: The Committee on Governance and Compensation will review and approve committee charges for the 2024-2025 year.

ALTERNATIVE(S): None.

FISCAL IMPACT: None.

CHANCELLOR'S RECOMMENDATION: This is an information item.

COMMITTEE ACTION: DATE: October 30, 2024

BOARD ACTION: DATE:

SUBMITTED BY: Denise Wilkerson; dwickerson@usmd.edu; 410-576-5734

USM Committee Charge - Audit 24-25



UNIVERSITY SYSTEM
of MARYLAND

Board of Regents
Committee on Audit
2024 - 2025

Charge:

To assist the Board of Regents in fulfilling its responsibilities for overseeing the adequacy of and compliance with the internal controls, BOR Policies, risk management practices, investigative activity, governance processes, and to oversee the sufficiency and appropriateness of the financial reporting of the University System of Maryland.

Role and Responsibilities:

The Committee on Audit regularly meets at least four times annually and, with the approval of the BOR, is granted the authority to investigate any activity of the USM, and all employees are directed to cooperate as requested by the Committee Chair or Committee of the Whole. The Committee, with the approval of the Board, is empowered to retain persons having special competence as necessary to assist the Committee in fulfilling its responsibility. It is empowered to:

- Appoint, compensate and oversee the work of the Director of Internal Audit and the public accounting firm employed by the organization to conduct the annual audit. This firm and the Director of Internal Audit will report directly to the Audit Committee.
- Resolve any disagreements between management and the auditor regarding financial reporting.
- Retain independent accountants or other qualified professionals to advise the Committee or assist in the conduct of an investigation.
- Seek any information it requires from employees--all of whom are directed to cooperate with the committee's requests--or external parties.
- Meet with USM officers, external auditors or outside counsel, as necessary.
- The committee may delegate authority to subcommittees, providing that decisions are presented to the full Committee at its next scheduled meeting.
- Review and approve the yearly internal audit plan and oversee the effectiveness of the internal audit function.

The Committee on Audit is charged with the following:

- A. The Committee on Audit shall render advice and assistance to the Board of Regents in fulfilling its fiduciary responsibilities for overseeing the adequacy of and compliance with the internal controls, BOR Policies, risk management practices, investigative activity,

governance processes, and to oversee the sufficiency and appropriateness of the financial reporting of the University System of Maryland.

- B. This Committee shall review independent audit proposals including the scope of examination, services to be provided, reports to be rendered and fees to be charged, recommend to the Board the selection and scope of work of the independent external auditor of the University System of Maryland, review findings received there from and provide the Board with appropriate reports.
- C. This Committee shall review legislative audits of the institutions of the University System and institutional responses thereto, and provide the Board with appropriate reports.
- D. This Committee shall review and recommend to the Board the scope of the internal audit function. The Committee shall review the Charter of the Office of Internal Audit, its annual plan of work, its reports and administrative actions taken regarding its recommendations, and its annual report of significant audit items, and shall provide the Board with appropriate reports on the activities of that office. The Committee shall review the performance of the Director of Internal Audit and monitor the effectiveness of the internal audit function.
- E. In fulfillment of these responsibilities this Committee shall foster direct communications with the external auditors on an annual basis or as otherwise deemed appropriate, and shall assure direct access from the Office of the Internal Audit, including meeting privately, at least on an annual basis, with the Director of Internal Audit.
- F. This Committee shall monitor the Board's observance of the State Ethics Code as it pertains to possible conflict of interest with matters of the University System of Maryland.
- G. This Committee shall assist the Board in fulfilling its responsibility to comply with Md. Education Code Ann. Section 12-104(p) review of annual financial disclosure statements— The Board of Regents shall review the annual financial disclosure statements filed by the Chancellor and the presidents of each constituent institution in accordance with Section 5-607 of the General Provisions Article.
- H. The Committee shall review the annual financial disclosure statements filed by the members of the Board of Regents in accordance with Section 5-607 of the General Provisions Article.
- I. The Committee shall render advice and assistance to the Board of Regents in fulfilling its responsibilities for overseeing the sufficiency and adequacy of Enterprise Risk Management of the University System of Maryland as defined in BOR Policy - VIII-20.00 Policy on Enterprise Risk Management.



UNIVERSITY SYSTEM
of MARYLAND

Board of Regents

Committee on Intercollegiate Athletics and Student-Athlete Health and Welfare
Charge, Role, and Responsibilities

Charge:

The Committee on Intercollegiate Athletics and Student-athlete Health and Welfare shall perform all necessary oversight of compliance with Board of Regents policy expectations, consider issues associated with intercollegiate athletics and student-athlete health and welfare concerns, and the need for further or changed Board of Regents policy requirements.

Role and Responsibilities:

The Committee on Intercollegiate Athletics and Student-athlete Health and Welfare shall consider and report or recommend to the Board of Regents on matters concerning expectations and requirements of institutions with intercollegiate athletics programs; minimum standards System-wide for institutions arrangements with student-athletes, including scholarships, student support services, health insurance and Title IX practices and compliance; and new Board of Regents policy changes recommended for full Board of Regents approval. The Committee will also review presidential success in managing institutional intercollegiate athletics in accordance with policy requirements. The Committee on Intercollegiate Athletics and Student-athlete Health and Welfare will also monitor (1) developments in intercollegiate athletics nationally, whether with the NCAA, athletic conferences, Federal legislation, judicial or administrative decisions, rule-making or other forms of national accountability, as well as crises at institutions nationwide that have resulted in harm to students, and (2) assess implications for USM institutions and provide advice, as appropriate.

Members of the Committee on Intercollegiate Athletics and Student-athlete Health and Welfare are appointed annually by the Chairperson of the Board. The Committee shall meet as needed, but no fewer than three times during the fiscal year. The members of the Committee may expect to receive information for review in order to consider, and/or act on any of the following matters:

- A. Information on health and academic support protocols provided to student-athletes.
- B. Information on Title IX compliance.
- C. Information on institution's student-athletes academic progress and graduation success.
- D. Institution submitted reports documenting athletic program status or performance relative to student-athlete health, safety, and well-being standards or expectations.
- E. Institution submitted reports documenting athletic program status or performance relative to academic, financial or other standards as required by the NCAA, athletic conferences or other organized bodies that may impose sanctions or influence the ICA program's resources or operations.
- F. Financial status, commitments and obligations, results of operations and financial projections for the coming five-year period.
- G. Information on significant emerging intercollegiate issues nationwide and their impact on the institution's ICA program.

The Committee shall prepare and provide its annual APR and financial reports to the full Board. The Committee shall also share the appropriate reports, respectively, with the committees on **Education Policy & Student Life and Safety** and **Finance** for information purposes.



Board of Regents Committee on Intercollegiate Athletics and Student-Athlete Health and Welfare

Tentative Work Plan for Fiscal Year 2025

November 6, 2024 - 1:30 PM (Zoom meeting)

- a) Review of the Committee charge, role, and responsibilities (Open session)
- b) Mid-year athletic directors' updates – **UMBC, UMCP, SU** (Open session)
- c) Legislatively required annual report on institution and System policy changes impacting student athletes- Jordan McNair Safe and Fair Play Act Report (Open session)

January 17, 2025 – due date for program and financial info, president's statements, NCAA AUP, and embargoed NCAA APR

April 7, 2025 – 1:00pm (Zoom meeting)

- a) Mid-year athletic directors' updates – **CSU, BSU** (Open session)
- b) Financial condition and results of intercollegiate athletic programs (Open session)
- c) Summary of ICA internal audits (Open session)
- d) Update/report from the Workgroup on the State of Athletic Trainers (Open session) - Tentative

April 25, 2025 – due date for all academic information, affirmations, mid-year financial results and projections, all outstanding NCAA reports, and projected APR

May 29, 2025 – 10:00 AM (Zoom meeting)

- a) Title IX intercollegiate athletics status – (Open session)
- b) Mid-year athletic directors' updates – **UMES, FSU, TU** (Open session)
- c) Summary of student-athlete admission, graduation, and academic progress (Open session)
- d) Proposed educational presentation on student-athletes and sports betting (Open session)

TOPIC: Towson University (TU) Recognition/Retention Bonus Plan for Sworn Police Officers

COMMITTEE: Committee on Governance and Compensation

DATE OF MEETING: December 4, 2024

SUMMARY: University leaders plan to provide one-time bonuses to their sworn university police officers (UPOs). According to TU, these bonuses are necessary in part because of the changing salary market for police officers in Baltimore, but also to recognize and reward the sustained efforts of their officers who continue to work through staffing challenges. TU indicated that their bonus plan is not a result of any negotiations or agreement reached with the FOP, but instead would be offered somewhat under existing USM BOR policy and the USM compensation guidelines. Negotiations with the FOP for a successor MOU will be underway soon as TU's current MOU with its FOP unit expires June 30, 2025. There are a total of 44 budgeted sworn police officer positions at TU; there are 37 budgeted bargaining unit positions of which 26 are currently filled.

USM BOR VII-9.20 – Policy on Pay Administration for Regular Nonexempt Staff Employees provides that a lump sum non-cumulative cash award “may be granted to a regular employee for an extraordinary contribution which substantially benefits the USM institution,” noting that the bonus pool must be determined within the guidelines established by the Chancellor. The FY 2025 USM Compensation Guidelines permit the institutions to provide other types of compensation beyond COLA and merit increases to an employee after full consideration of relevant factors. Any recommendation for bonus eligibility and the bonus pool amounts available at the institution are required to be sent to the Chancellor for review and comment prior to any announcement.

Bonuses at TU would be funded from vacant position salary savings and would be provided as follows:

- One-time lump sum “appreciation bonus” of \$2,500 to all UPOs employed on December 1, 2024.
- One-time lump sum retention bonus of \$10,000 to all UPOs employed on May 31, 2025, who were hired on or before January 1, 2025. This amount would be prorated for officers hired between January 1 and May 31.

In total, 30 officers will receive these bonuses, including 26 bargaining unit employees. TU's plans do not contain any provision for repayment of the above bonuses if an employee leaves within a certain period following receipt of the bonus payment. The attached document(s) provides additional details.

ALTERNATIVE(S): Information item only.

FISCAL IMPACT: Information item only.

CHANCELLOR'S RECOMMENDATION: Information item only.

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Ellen Herbst (301) 445-1923

**To: University System of Maryland Board of Regents
Committee on Governance & Compensation**

**From: Towson University
University Police Negotiating Team**

Date: November 1, 2024

**Re: Recognition/Retention Bonus Plan
Fraternal Order of Police Lodge 82**

For the awareness of the University System of Maryland (USM) Board of Regents, Towson University (the "University") is implementing a one-time recognition/retention bonus package for the University Police as described below. This was not a negotiated package, rather a package developed by the University to address anticipated concerns around retention of current bargaining unit officers. This package was reviewed and received the support and approval of TU President, Mark Ginsberg.

Unit Information

Bargaining Unit Ranks: UPO I – UPO IV
Total Budgeted Unit Positions: 37
Current Positions Filled: 26
Current MOU Expires: June 30, 2025

History of Bargaining Unit MOUs:

Throughout the existence of this bargaining unit the University and FOP Lodge 82 have negotiated a total of eight (8) Memoranda of Understanding. The history/duration of all previous agreements is as follows:

- July 1, 2006 through June 30, 2009;
- July 1, 2009 through June 30, 2011;
- July 1, 2011 through June 30, 2013 ;
- July 1, 2013 through June 30, 2016 (limited reopener engaged for period of July 1, 2015 through June 30, 2016, excluding Article 5);
- July 1, 2015 through June 30, 2016;
- July 1, 2016 through June 30, 2019;
- July 1, 2019 through June 30, 2022;
- July 1, 2022 through June 30 2025 (current)

Objectives of the Bonus

- Recognize and reward the sustained efforts of UPOs who continue to work through staffing challenges that have resulted in consistently high rates of OT that impact physical and mental health. A financial “reward” as an overt gesture of appreciation and thanks;
- Provide an incentive for UPOs to continue working at TU by offering a one-time lump sum bonus upon reaching a specific date of employment. Set the date for eligibility at a point that supports the needs of TU while not being unrealistic for UPOs.

Rationale/Considerations

- Recruiting/retention continue to be a challenge for the policing profession and TU;
- While we continue to make steady progress, it is slow and arduous, resulting in the need for regular overtime of existing UPOs;
 - Current bargaining unit vacancy rate: 30% (26 of 37 unit positions filled)
 - Similar vacancy rate over a sustained period of time has resulted in an ongoing need for overtime with no definitive reduction or end in the foreseeable future
 - Hiring efforts not keeping pace with the vacancy rate (2024: 3 bargaining unit members hired; 5 bargaining unit members departed)
- Other jurisdictions (UMBC, UMB, Hopkins, BaltoCo) have introduced non-base pay rewards/incentives for new hires and retention programs for existing UPOs. This approach will show the University’s commitment to stay competitive with approaches at other jurisdictions;
- As the University hires newer (and in some cases less experienced UPOS) and train them, we want to provide some additional financial incentive for them to continue working at TU and not be tempted/lured to another nearby jurisdiction because of a hiring bonus. Currently over 60% of our UPOs have less than 3 years of service and are most vulnerable to leave for bonuses offered at other jurisdictions;
- The University wants to provide an incentive for longer serving UPOs to delay/defer retirement decisions and stay to receive an attractive one-time retention “bonus.” Getting this additional service allows us to continue to recruit and hire while not adding additional strain on existing UPO staff;
- The University is soon entering into negotiations for our next MOU that becomes effective July 1, 2025. Taking this approach is a good faith “signal”/investment to UPOs about our commitment and their value to the institution;
- Bonus package under these circumstances is also pursuant to *USM Policy VII-9.20 – Policy on Pay Administration for Regular Nonexempt Staff Employees*, specifically regarding “Non-cumulative cash bonuses. The policy directs that such bonuses may be granted “for an extraordinary contribution which substantially benefits the institution...” and “...shall establish criteria for bonus eligibility, review and approval, and amount of bonus awards;
 - In the case of bargaining unit members the extraordinary contributions relate to the dedication to service in the face of staffing shortages, as demonstrated by increased hours required with a high level of service maintained.
 - Institutional criteria for bonus eligibility and review are outlined in this summary.
- This bonus program allows the University to enter our period of negotiations with show of good faith and an investment in our existing police force. While we recognize it will also potentially be a factor in the upcoming discussions, we believe it will be a positive factor for TU and for the UPOs.

Summary of Bonus Program

- While several options were considered (including no bonus program at all), consensus was reached on a one-time bonus program will benefit both TU and our dedicated UPOs;
- The bonus options we considered took into consideration:
 - The total amount of a bonus
 - The timing of the bonus payments
 - Eligibility criteria
 - Bonus programs at competing jurisdictions
 - Total cost
- It is believed that implementing a program that recognizes the commitment of the UPOs to work the hours needed to support the programs and service provided while also providing an incentive to remain working with TU on an extended basis is of substantial value to the University and the best option.
- **Structure/Amount**
 - One-time lump sum “appreciation” bonus of \$2500 (gross) to all UPOs employed and active on December 1, 2024. The bonus will be framed as one of appreciation for the continued commitment to provide services and support while we actively work to hire qualified UPOs. The timing will coincide with the holiday period which very likely will be received positively;
 - One-time lump sum retention bonus of \$10,000 (gross) to all UPOs employed and active on May 31, 2025 and were hired on or before January 1, 2025. Members hired as a UPO between January 1 and May 31, 2025 will have the amount pro-rated based on date of hire. This bonus will be framed as one for retention.

Estimated Cost

Figures below are approximated and based on 30 bargaining unit member positions relative to the January 2025 bonus, and 35 positions relative to the June 2025 bonus:

- January 2025 Bonus Payment: **\$70,000**
- June 2025 Bonus Payment: **\$325,000**

Total estimated cost: **\$395,000**

Given that the payments included in the proposed package are one-time lump sums not applicable to base salary, there will be no material effect on fringe compensation/benefits.

These costs will be absorbed by current salary savings from open positions.

Towson University Negotiating Team

Steve Jones – Senior VP of Campus Operations, CHRO/COO
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Charles “Joe” Herring – AVP of Public Safety & Chief of Police
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Jennifer Stano – AVP of Human Resources
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Matt Reinhart – Deputy General Counsel
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Nate Barker – Director, HR Partnerships & Faculty/Staff Relations
(410) 704-6015
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TOPIC: Research and Economic Development Update on Research

COMMITTEE: Committee on Research and Economic Development

DATE OF MEETING: December 20, 2024

SUMMARY: Provide the board with an update on research

ALTERNATIVE(S): No alternative is suggested

FISCAL IMPACT: There is no fiscal impact

CHANCELLOR'S RECOMMENDATION:

COMMITTEE ACTION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Denise Wilkerson, dwilkerson@usmd.edu, 410-576-5734

Spotlight on Research 2024

Spotlight on Research across the USM

Meeting Milestones and Moving Forward

Michele Masucci, Ph.D.

Vice Chancellor for Research and Economic Development

Research and Economic Development Committee Report

Board of Regents Meeting

December 20, 2024





Topics

- Strategic Focus on Research
- USM Strengths
- Recent milestones
- Carnegie Classification Changes
- Building on Success
- Q and A

1. Alignment
2. Environmental Science
3. Community Research
4. Collaborative Research
5. Strategic Partnerships
6. Funding Diversification
7. Research for Social Good

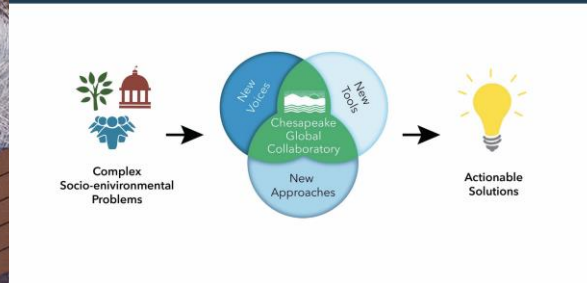




R and D Strengths in across the USM

- **Biomedical, health and health data**
- **Engineering, including materials, robotics, autonomous systems, advanced manufacturing**
- **Cybersecurity, systems, infrastructure and artificial intelligence**
- **Environmental and Climate sciences, sustainable ecosystems and agriculture, marine science**
- **Aerospace**
- **Social Science and policy**

Large-Scale Initiatives Across the USM



Towson – Start up at the Armory Annual Showcase Event this Fall



Pharmacy Lobby

Pharmacy at UMES



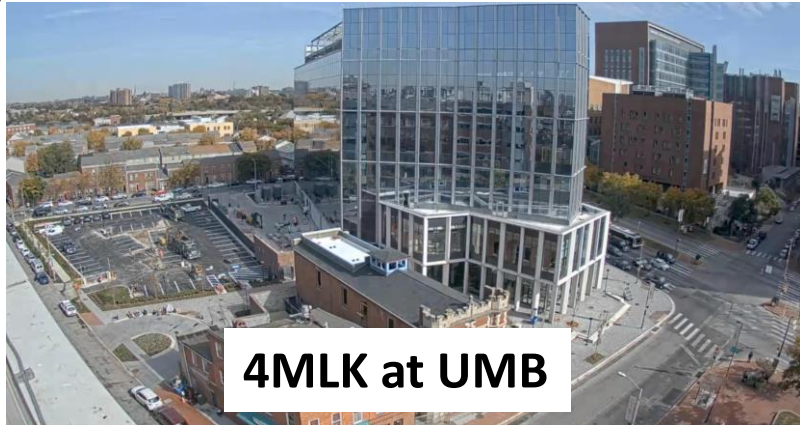
Introducing TU's Newest Landmark, the Health Professions Building
Towson University

Play

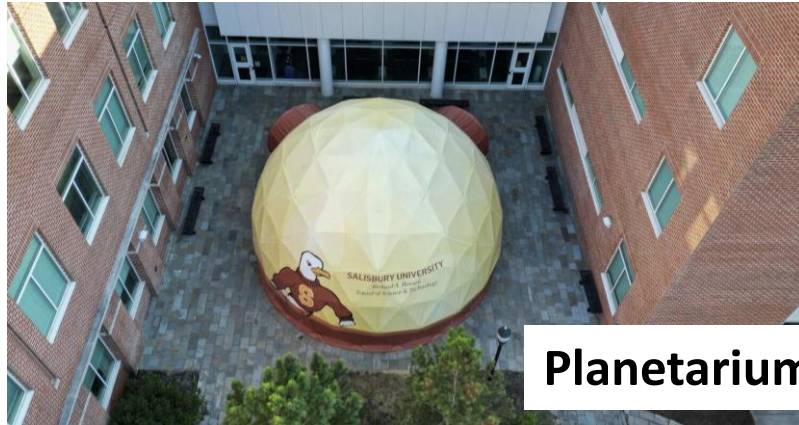
Health Sciences at Towson



Introducing TU's Newest Landmark, the Health Professions Building
Towson University



4MLK at UMB



Planetarium at Salisbury



Expanding Research and Development Capacity

UMD awarded Department of Energy Hydrogen grant for \$10M related to hydrogen powered vehicles:

<https://crr.umd.edu/news/story/umd-part-of-10-million-doe-hydrogen-grant>

UMCES launched Nitrogen Research fellows as part of NICCEE initiative: <https://www.umces.edu/content/pioneering-nitrogen-research-and-innovations-unveiled-at-the-nitrogen-summer-institutel>; <https://niccee.org/about-niccee/>

UMBC GRIT-X 2024 held 10-24-24, more here: <https://research.umbc.edu/grit-x/>

Salisbury University – NASA Partnership for Workforce Development <https://www.salisbury.edu/news/article/2024-3-28-SU-NASA-Formalize-Partnership-for-Student-Opportunities-Through-Space-Act-Agreement>

UMES Partnering with George Washington University on NIH Study of AI in Medicine <https://healthitanalytics.com/news/nih-funding-development-of-ai-tools-for-health-disparity-research>

UMD CyberCorps Scholarship for Service NSF Funding renewed

https://aces.umd.edu/sfshttps://www.nsf.gov/awardsearch/showAward?AWD_ID=2336312&HistoricalAwards=false

MPower Strategic Funding Approved from State of Maryland <https://www.umaryland.edu/news/archived-news/may-2024/the-power-to-make-something-good-happen-in-health-care.php>

Instrument development support to Dr. Mehdi Benna at UMBC's NASA-funded CSST Center, the Lunar Environment Monitoring Station (LEMS) – \$6.6M <https://www.nasa.gov/news-release/nasa-selects-first-lunar-instruments-for-artemis-astronaut-deployment/>

Professor Lori Harvin, Coppin State University, Selected as inaugural Business Higher Education Forum Innovation Fellow

<https://www.bhef.com/faculty-innovation-fellowship>

NSF Convergence Accelerator Award to Ming Li at UMCES for developing tools to manage salt contamination of fresh water - \$600K <https://www.umces.edu/news/new-research-effort-will-consolidate-tools-to-manage-salt-contamination-of-fresh-water-supplies>

Sloan Research Fellowship for studying plasmas surrounding black holes and neutron stars awarded to UMD's Sasha Philippov, 75K

<https://sloan.org/fellowships/2024-Fellows>

Frostburg State University's Innovation Center received funding from USM Launch Fund for Aquatic Circle -

<https://www.umces.edu/news/new-allegany-county-grant-sparks-innovation-and-creates-public-private-partners>

Metrics that Drive Reputation

- **USM Research Expenditures for FY 2023 – \$1.64B* - increase from \$1.280 in FY 2020**
- **USM Research Awards for FY 2023 – \$1.8B**
- **5 Year average of 332 inventions/year in 2023**
- **Patents issued: USM is #21 Worldwide, #15 in US, #9 in US public institutions for FY 2024 based on 108 patents granted ****
- **UMB-UMD ranked 19th in FY 2022 Research expenditures based on NSF HERD released in January 2023**
 - *UMD 4th, UMBC 10th in NASA Funding*
- **Economic Development Impact of USM – \$10.4B in 2021*****

USM Research Expenditures Reported to NSF HERD FY 2023

Institution	NSF Herd FY 2023	NSF HERD Rank FY 2023	Carnegie Designation - 2022
Bowie	\$2,612,000	531/360	Master's Colleges & Universities: Larger Programs
Coppin	\$357,000	NA	Master's Colleges & Universities: Small Programs
Frostburg	NA	NA	Master's Colleges & Universities: Larger Programs
Salisbury	\$14,557,000	331/242	Master's Colleges & Universities: Larger Programs
Towson	\$17,198,000	319/235	Master's Colleges & Universities: Larger Programs
UBalt	\$6,615,000	411/292	Special Focus Four-Year: Research Institution
UMB	\$1,385,302,000	18/11	Special Focus Four-Year: Research Institution
UMCP			R1 - Doctoral Universities: Very High Research Activity
UMBC	\$144,262,000	156/112	R1 - Doctoral Universities: Very High Research Activity
UMCES	\$53,233,000	223/160	NA
UMES	\$10,730,000	355/259	R2 - Doctoral Universities: High Research Activity
UMGC	NA	NA	Master's Colleges & Universities: Larger Programs
Total	\$1,634,509,000	All/Public	New Carnegie Classifications Forthcoming in 2025

Achieving Impacts through Investing in Ventures across the USM

Salisbury University Shore Hatchery

<https://www.salisbury.edu/academic-offices/business/shore-hatchery/>

USM Launch Fund

<https://www.usmd.edu/launch/>

Towson University StarTUp Accelerator

<https://www.towson.edu/startup/accelerator/>

Maryland Industrial Partnerships (MIPS)

<https://mips.umd.edu/>

Maryland Innovation Initiative (MII)

<https://www.tedcomd.com/funding/maryland-innovation-initiative>

Baltimore Fund

<https://www.umventures.org/about-us/initiatives/the-baltimore-fund>

Discovery Fund

<https://innovate.umd.edu/resources/discoveryfund>

Momentum Fund

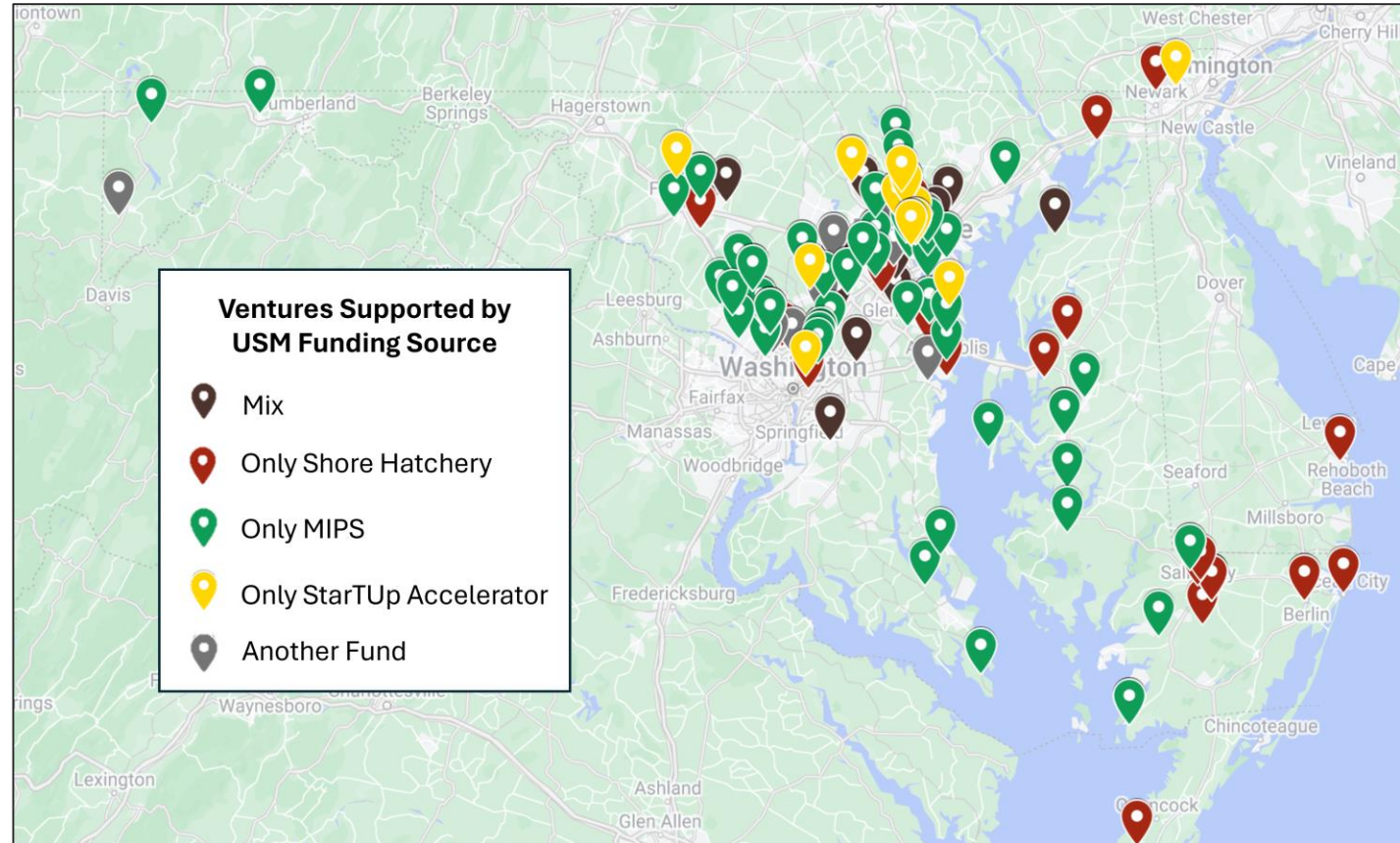
<https://momentum.usmd.edu/>

Dingman Center Angels

<https://www.rhsmith.umd.edu/centers-initiatives/dingman-center/initiatives-programs/dingman-center-angels>

Chesapeake Bay Seed Capital Fund

<https://www.cbscf.umd.edu/>

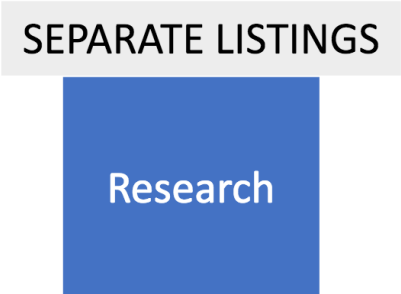
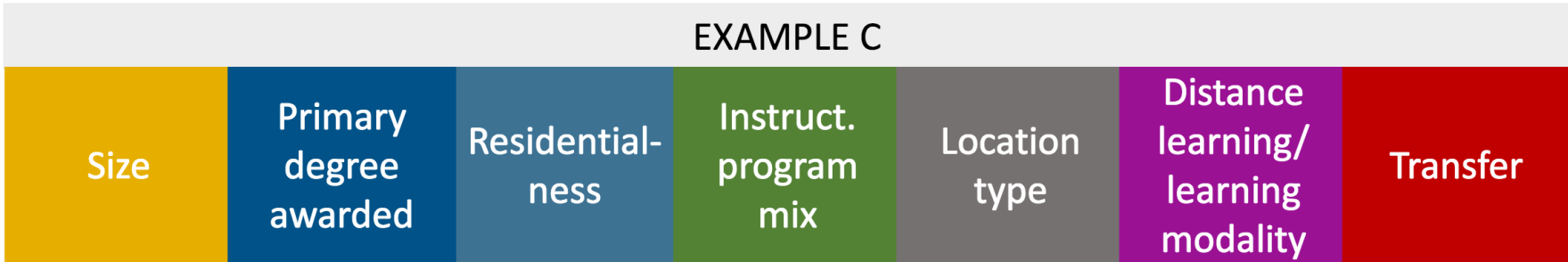


Carnegie Classification of Institutions of Higher Education Changes

- American Council on Education (ACE) has undertaken a comprehensive assessment of the classification system
- Introduced a revision to the rankings in November 2023 that will go into effect in 2025
- These include two basic changes and one proposed change:
 - Shift of Basic Classification to multidimensional characterization
 - Changes to research designation methodology – including new research designation and more transparent criteria for research characterization
 - Proposed new Social and Economic Mobility Characterization to advance equitable, learner centric outcomes – More here:

<https://carnegieclassifications.acenet.edu/wp-content/uploads/2023/02/22-0711-Carnegie-Fact-Sheet-update.pdf>

Potential application of multi-dimensional basic classification in 2025



Potentially use different characteristics based on primary degree awarded

Source: <https://carnegieclassifications.acenet.edu/wp-content/uploads/2023/11/Carnegie-Classifications-Updates-Slide-Deck.pdf>

Research 1: Very High Research Spending and Doctorate Production

- Spent at least **\$50 million** in total R&D in a year, as reported to the NSF HERD Survey

AND

- Awarded at least **70 research/scholarship doctorates** in a year, as reported to IPEDS

Research 2: High Research Spending and Doctorate Production

- Spent at least **\$5 million** in total R&D in a year, as reported to the NSF HERD Survey

AND

- Awarded at least **20 research/scholarship doctorates** in a year, as reported to IPEDS

Research Colleges and Universities

- Spent at least **\$2.5 million** in total R&D in a year, as reported to the NSF HERD Survey
- *Does not include institutions designated R1 or R2*

For the 2025 classifications, institutions will receive the higher of either:

- Three-year average (2021, 2022, 2023)
- Most recent single year (2023)

The Road Ahead – Building on Success



Focus on Student research experiences



Foster research collaboration across the USM



Measure Economic Impacts and work across whole of government to meet needs



Provide Technical Assistance to support R and D growth



Translate research through advancing startups



Celebrate Research and Innovation Successes

Questions and Comments

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UNIVERSITY SYSTEM
of MARYLAND

TOPIC: Initial Report of the HIEDA Taskforce

COMMITTEE: Committee of the Whole

DATE OF MEETING: December 20, 2024

SUMMARY: Provide the board with an initial report on the HIEDA Taskforce

ALTERNATIVE(S): No alternative is suggested

FISCAL IMPACT: There is no fiscal impact

CHANCELLOR'S RECOMMENDATION:

COMMITTEE ACTION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Denise Wilkerson, dwilkerson@usmd.edu, 410-576-5734

TOPIC: Convening Closed Session

COMMITTEE: Committee of the Whole

DATE OF MEETING: December 20, 2024

SUMMARY: The Open Meetings Act permits public bodies to close their meetings to the public in special circumstances outlined in §3-305 of the Act and to carry out administrative functions exempted by §3-103 of the Act. The Board of Regents will now vote to reconvene in closed session. As required by law, the vote on the closing of the session will be recorded. A written statement of the reason(s) for closing the meeting, including a citation of the authority under §3-305 and a listing of the topics to be discussed, is available for public review.

It is possible that an issue could arise during a closed session that the Board determines should be discussed in open session or added to the closed session agenda for discussion. In that event, the Board would reconvene in open session to discuss the open session topic or to vote to reconvene in closed session to discuss the additional closed session topic.

ALTERNATIVE(S): No alternative is suggested.

FISCAL IMPACT: There is no fiscal impact

CHANCELLOR'S RECOMMENDATION: The Chancellor recommends that the BOR vote to reconvene in closed session.

COMMITTEE ACTION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Denise Wilkerson, dwilkerson@usmd.edu, 410-576-5734

STATEMENT CLOSING A MEETING - December 20 2024



STATEMENT REGARDING CLOSING A MEETING
OF THE USM BOARD OF REGENTS

Date: December 20, 2024
Time: Approximately 11:00 a.m.
Location: University of Maryland Global Campus

STATUTORY AUTHORITY TO CLOSE A SESSION

Md. Code, General Provisions Article §3-305(b):

- (1) To discuss:
 - [X] (i) The appointment, employment, assignment, promotion, discipline, demotion, compensation, removal, resignation, or performance evaluation of appointees, employees, or officials over whom it has jurisdiction; or
 - [X] (ii) Any other personnel matter that affects one or more specific individuals.
- (2) [] To protect the privacy or reputation of individuals with respect to a matter that is not related to public business.
- (3) [] To consider the acquisition of real property for a public purpose and matters directly related thereto.
- (4) [] To consider a preliminary matter that concerns the proposal for a business or industrial organization to locate, expand, or remain in the State.
- (5) [] To consider the investment of public funds.
- (6) [] To consider the marketing of public securities.
- (7) [X] To consult with counsel to obtain legal advice on a legal matter.
- (8) [X] To consult with staff, consultants, or other individuals about pending or potential litigation.
- (9) [X] To conduct collective bargaining negotiations or consider matters that relate to the negotiations.

- (10) To discuss public security, if the public body determines that public discussions would constitute a risk to the public or public security, including:
- (i) the deployment of fire and police services and staff; and
 - (ii) the development and implementation of emergency plans.
- (11) To prepare, administer or grade a scholastic, licensing, or qualifying examination.
- (12) To conduct or discuss an investigative proceeding on actual or possible criminal conduct.
- (13) To comply with a specific constitutional, statutory, or judicially imposed requirement that prevents public disclosures about a particular proceeding or matter.
- (14) Before a contract is awarded or bids are opened, to discuss a matter directly related to a negotiation strategy or the contents of a bid or proposal, if public discussion or disclosure would adversely impact the ability of the public body to participate in the competitive bidding or proposal process.
- (15) To discuss cybersecurity, if the public body determines that public discussion would constitute a risk to:
- (i) security assessments or deployments relating to information resources technology;
 - (ii) network security information, including information that is:
 1. related to passwords, personal identification numbers, access codes, encryption, or other components of the security system of a governmental entity;
 2. collected, assembled, or maintained by or for a governmental entity to prevent, detect, or investigate criminal activity; or
 3. related to an assessment, made by or for a governmental entity or maintained by a governmental entity, of the vulnerability of a network to criminal activity; or
 - (iii) deployments or implementation of security personnel, critical infrastructure, or security devices.

Md. Code, General Provisions Article §3-103(a)(1)(i):

- Administrative Matters

TOPICS TO BE DISCUSSED:

1. Meetings with two presidents as part of their performance reviews;
2. The awarding of a contract for food products, chemical products and non-food products;

3. Update on status of collective bargaining at USM institutions;
4. Information update regarding specific personnel contracts subject to review under BOR VII-10.0 Policy on Board of Regents Review of Certain Contracts and Employment Agreements;
5. Updates on three personnel matters concerning individual employees at USM institutions;
6. Discussion with counsel about NCAA litigation and advice from counsel on implications regarding post-settlement implementation;
7. Discussion regarding protocol on board members' commencement participation;
8. Discussion regarding proposed FY2026 operating budget submission and potential adjustments to the submission;
9. Discussion regarding a president's board membership;
10. Discussion regarding an individual's employment agreement; and
11. Annual board officer elections.

REASON FOR CLOSING:

1. To maintain confidentiality of discussions in connection with employee performance reviews (§3-305(b)(1));
2. To maintain confidentiality of discussions of bid proposals prior to BOR approval and the awarding of a new contract (§3-305(b)(14));
3. To maintain confidentiality of a discussion of ongoing collective bargaining negotiations (§3-305(b)(9));
4. To maintain confidentiality of discussions regarding specific employment agreements and compensation (§3-305(b)(1));
5. To maintain confidentiality of discussions regarding individual personnel matters (§3-305(b)(1));
6. To maintain confidentiality and attorney client privilege with respect to communications with, and advice from, legal counsel (§3-305(b)(7) and (8));
7. To handle administrative matters regarding protocols on board members' participation in commencements and board officer elections (§3-103(a)(1)(i)); and
8. To maintain confidentiality, pursuant to executive privilege, of the proposed operating budget prior to the Governor's submission to the legislature. (§3-305(b)(13)).