**USM Accessible Technology and Information Guidelines**
**April 2017**

The University System of Maryland is committed to advancing technology and information accessibility to all individuals. The following are guidelines to promote equal access to electronic information, resulting in an all-inclusive learning and working environments. An accessible technology and information environment enhances usability for all persons.

This document addresses areas to focus efforts including: web accessibility, accessibility of course materials and online courses, captioning, procurement, and information resources accessibility.

**Guidelines for Web Accessibility**

In order to ensure accessibility within all USM websites, web accessibility guidelines should be adhered to on each campus. These guidelines should facilitate website accessibility in the areas of development, auditing, correcting, and monitoring.

Accessibility Standards

General web standards include the World Wide Web Consortium (W3C) which summarizes web accessibility in its **Web Content Accessibility Guidelines 2.0 (WCAG)**. In general, it is recommended that USM institutions adhere to WCAG 2.0 standards for web-based products/services, with level AA conformance. WCAG 2.0 is organized into the following four key concepts:

- Web content must be **perceivable.**
  - Provide **text alternatives** for non-text content.
  - Provide **captions and other alternatives** for multimedia.
  - Create content that can b**e presented in different ways**, including by assistive technologies, without losing meaning.
  - Make it easier for users to **see and hear content**.
- Web content must be **operable.**
  - Make all functionality available from a **keyboard**.
  - Give users **enough time** to read and use content.
  - Do not use content that may cause **seizures**.
  - Help users **avoid and correct mistakes** in navigation.
- Web content must be **understandable.**
  - Make text **readable and understandable**.
  - Make content appear and operate in **predictable** ways.
  - Help users **avoid and correct mistakes**.
- Web content must be **robust.**
  - Maximize **compatibility** with current and future user tools.

Although written specifically for web content, these principles apply to other technologies as well.

Maintenance of Standards

New and updated administrative websites, web applications and web content produced by USM institutions or by third-party developers should, at a minimum, conform to baseline accessibility standards as defined in WCAG 2.0 AA standards. An enterprise tool should be used to ensure that accessibility standards are met. Each USM institution should have access to a website accessibility enterprise tool that is capable of scanning current websites for accessibility errors, being programmed to conduct regularly-scheduled scans, and being utilized to evaluate any new content added to campus websites.

The necessary training and information should be provided to faculty and staff who develop or post content on websites so they can effectively use automated tools to scan, repair and replace website content to ensure accessibility. Accessibility audits should then be conducted on an on-going basis. After an initial audit, an individualized campus correction action plan should be developed that identifies the supports needed to address inaccessible websites.

Regarding third-party websites, if remediation or replacement of the website is not possible or would constitute an undue burden, a plan to provide an equally effective alternate form of access should be developed and implemented.

Each USM institution should identify the responsible party for enforcing and monitoring the web accessibility process.

**Guidelines for Accessible Course Materials and Online Courses**

USM institutions must ensure that course materials are accessible. The U.S. Department of Education has stated that the standard for "accessible" is that "a person with a disability is afforded the opportunity to **acquire the same information, engage in the same interactions, and enjoy the same services as a person without a disability in an equally effective and equally integrated manner, with substantially equivalent ease of use. A person with a disability must be able to obtain the information as fully, equally, and independently as a person without a disability.** Although this might not result in identical ease of use compared to that of persons without disabilities, it still must ensure equal opportunity to the educational benefits and opportunities afforded by the technology and equal treatment in the use of such technology."[1]

Course Materials

Students with print disabilities too often still struggle for access to standard hard copy print in textbooks, course readers, and library research materials in the alternate format they need (e.g., digital

[1] Resolution Agreement between University of Cincinnati and Department of Education, Office for Civil Rights, Compliance Review No. 15-13-6001 (Dec. 8, 2014); Resolution Agreement between Youngstown State University and Department of Education, Office for Civil Rights, Compliance Review No. 15-13-6002 (Nov. 25, 2014).

text, Braille, large print, or audio). Institutions should implement a comprehensive approach for rapidly converting course materials, such as textbooks and readers, into an accessible format. Institutions should require faculty to submit reading lists prior to the start of the semester with adequate time for the appropriate student support services office to convert course materials into accessible formats. Faculty should be required to disseminate supplemental course materials as far in advance of the class reading due date as possible. Additionally, learning management systems and classroom technologies, including podiums, displays, and clickers, should be accessible.

Online Courses

Ensuring that online courses are accessible to all students poses unique challenges. Notably, the burgeoning trend toward using open educational resources for course material will directly impact higher education's ability to deliver alternate formats in a timely manner. Given the scope of this requirement, accessibility of online education must start with forethought in course design rather than an afterthought when a student encounters an accessibility barrier. Therefore, USM institutions should incorporate accessibility in web-based courses from inception through implementation, which will require a shift in thinking to designing online courses with accessibility in mind. While delivering accessible online courses and content will involve up-front planning, effort and resources, these variables will be offset by a reduction or elimination of the time and expense of providing accommodations. Importantly, incorporating accessibility during the design and building of online courses is typically less resource intensive than retrofitting an existing online course.

These guidelines on online courses are not limited to password-protected class or course content provided to a discrete or targeted audience. Classes, courses, or content that is made available to the general public through the institution's own website or through services such as YouTube, iTunes U, and the edX learning management platform (e.g., Massive Open Online Courses, or "MOOCs"), should always be made accessible from the outset.

Best Practices

WCAG 2.0 AA conformance constitutes best practices for Web content. Members of the USM Accessible Information and Technology Workgroup have developed a best practices resource specifically for developing online course materials entitled, *Improving Access: Best Practices for Developing Course Materials with an Online Component.* The document includes a checklist of practices for communicating with students about accessibility, addressing and accommodating differences, and designing an effective course layout and visual design.

The resource is based on the fifth edition of the Quality Matters (QM) Rubric*, used in a collegial process for promoting quality in online/blended courses, which includes the following five key standards* in online course accessibility:

- Course instructions articulate or link to the institution's accessibility policies and services (QM Standard 7.2).
- Course navigation facilitates ease of use (QM Standard 8.1).

- Information is provided about the accessibility of all technologies required in the course (QM Standard 8.2).
- The course provides alternative means of access to course materials in formats that meet the needs of diverse learners (QM Standard 8.3).
- The course design accommodates readability (QM Standards 8.4).



As beginning steps to introduce how to create accessible online course content to faculty, course developers, etc., USM institutions should consider the following:

- Develop an accessible syllabus template and train faculty in how to implement it in their courses.
- Provide faculty and staff awareness and training of common course format barriers and accessible alternatives to remedy them as shown below:

| **Format** | **Barrier** | **Accessible Alternative** |
|---|---|---|
| Printed text | Incompatible with screen readers used by blind/low vision students and students with learning disabilities (LD) | Supplement with audio; provide an electronic copy of text |
| Audio | Hearing impaired students may not hear it; students with LD (auditory processing) may have difficulty understanding it | Supplement with printed text |
| Video | Blind/low vision students may not see it; hearing impaired students may not hear it; students with LD (auditory processing) may have difficulty understanding it | Provide description, captions or written transcript |
| Picture | Blind/low vision students may not see it | Add description |
| Synchronous discussion | Blind/low vision students, students with LD and ADHD, students with medical/physical and psychological disabilities may have difficulty following and keeping up | Use asynchronous format for all or some discussions to allow more time for processing and responding |

| Format | Barrier | Accessible Alternative |
|---|---|---|
| Tests/Quizzes | Many students with disabilities have slower processing speed that impacts performance (e.g., LD and ADHD, medical/physical and psychological, blind/low vision, hearing impaired) | Provide extended time;<br>Supplement with audio;<br>Provide large text size option |

General Online Course Accessibility

USM institutions should implement best practices for creating courses with an online component. The USM Accessible Information and Technology Workgroup has developed the document *Improving Access: Best Practices for Developing Course Materials with an Online Component* that can be obtained by contacting any member of the Workgroup. The next step would be for the USM institutions to vet the document for potential adoption as a system-wide best practices resource.

**Guidelines for Captioning Materials**

Current media usage, both in the classroom and on the web, often presents barriers to persons with disabilities. As more web and classroom content includes video and audio components at USM institutions, there is an increasing need for captioning, as well as descriptive audio. Under the ADA, captioning and audio description are necessary and required to make audio and audiovisual media accessible. Descriptive audio, also referred to as video description, is an additional narrative track intended primarily for persons who are blind or have low vision who are using visual media. It consists of a narrator talking through the presentation, describing what is happening on the screen during natural pauses in the audio. The American Council of the Blind maintains a list of audio description service vendors at: http://www.acb.org/adp/services.html.

The demand for captioning far exceeds the need for audio description at USM institutions. Captioning enables a deaf or hard-of-hearing person to view a presentation and read what is being said simultaneously. Captioning is also beneficial for students with learning disabilities and ADHD, as well as for students whose primary language is not English.

Captioning Accessibility Guidelines

All USM institutions should have a campus-wide captioned media policy and/or guidelines. Recognizing the challenge of captioning all video content, the following set of guidelines is an example of what campuses could use to prioritize audiovisual and audio media for captioning.

1. Captioning Required:

Captioning should be required for the following types of media:

- Media used for instructional purposes for a student enrolled at the University who is deaf or hard of hearing and registered with Disability Support Services

- Media used for instructional purposes provided to the general public through the University's own website or services such as YouTube, iTunes U, and edX
- Media used to orient, publicize, promote or explain the University and its services that is intended to reach the general public (e.g., Admissions, Orientation, University Advancement, etc.)
- Media intended to reach the general public that is linked to the University website

2. Captioning Encouraged:

Captioning is strongly encouraged for all online audio and audiovisual media that will be used in the future for an open audience. For example, if a video is used regularly to teach a class, there is an increased likelihood that a student in the future will need it captioned. It is much more efficient for an institution to think about accessibility prospectively when developing online course content than to attempt to make the content accessible in a timely manner upon notice of a student's need.

3. Captioning Not Required:

Captioning need not be required for media that will be used for a limited duration when the audience is consistently restricted to a group of users who are known not to need captioning. For example, if access is restricted by some means such as Moodle, and it is known that no one in the class needs it, captioning is not necessary. However, if an institution receives notice of a student's need for captioning at any time, the institution must make the content accessible in a timely manner.

<u>General Captioning</u>

Given the scope of captioning needs at all institutions, establish a fund at the institution and/or USM level to help ensure that captioning requirements are met.

Adopt a proactive approach for captioning course videos that encourages faculty to caption media even without identified students requiring captioning.

Review campus web sites for video content that should be captioned, prioritize it for captioning and take action to caption it.

Provide awareness and training to the campus community about captioning requirements, the options (e.g., providing a transcript) and available resources to support captioning.

Implement administrative methods to monitor compliance with captioning requirements and to solicit, receive, and respond to feedback regarding captioning.

**Guidelines for Procuring Accessible Technology**

To ensure the accessibility of instructional material and technology used by USM institutions, those responsible for making decisions about which products to procure should consider accessibility as one criterion for acquisition. This is particularly important for enterprise-level systems or technologies that impact a large number of students, faculty and staff. To consider accessibility in procurement, those

making procurement decisions at USM institutions should ask vendors to provide information about the accessibility of their products that is valid and measured using a method that is reliable and objective (e.g., WCAG 2.0 AA). Those making procurement decisions should be able to objectively evaluate the accessibility of products and to scrutinize information provided by vendors.

USM Procurement officers and others should be aware of the COMAR 21.05.08.05 Nonvisual Access Clause, with which USM procurement policy must be consistent:

> *A. Except as provided in §B of this regulation, the following clause is a mandatory provision for each invitation for bid under COMAR 21.05.02 or request for proposals under COMAR 21.05.03 for the purchase of new or upgraded information technology:*
>
> *"The bidder or offeror warrants that the information technology offered under this bid or proposal (1) provides equivalent access for effective use by both visual and nonvisual means; (2) will present information, including prompts used for interactive communications, in formats intended for both visual and nonvisual use; (3) if intended for use in a network, can be integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired; and (4) is available, whenever possible, without modification for compatibility with software and hardware for nonvisual access. The bidder or offeror further warrants that the cost, if any, of modifying the information technology for compatibility with software and hardware used for nonvisual access will not increase the cost of the information technology by more than 5 percent.*
>
> *"For purposes of this regulation, the phrase 'equivalent access' means the ability to receive, use, and manipulate information and operate controls necessary to access and use information technology by nonvisual means. Examples of equivalent access include keyboard controls used for input and synthesized speech, Braille, or other audible or tactile means used for output."*
>
> *B. The nonvisual access clause is not required if the procurement officer makes a determination that:*
>
> *(1) The information technology is not available with nonvisual access because the essential elements of the information technology are visual and nonvisual equivalence cannot be developed; or*
>
> *(2) The cost of modifying the information technology for compatibility with software and hardware used for nonvisual access would increase the cost of the procurement by more than 5 percent.*
>
> *C. The procurement officer may request such documentation as is reasonably necessary to implement this regulation.*

Information Technology

When procuring information technology, USM institutions should acquire products that comply with applicable WCAG 2.0 AA provisions when such products are available in the commercial marketplace. Each USM institution should establish a commitment to make accessibility a significant factor in procurement. When a product that best matches campus needs does not meet the requirements, the company should be provided with an option to commit to adding the missing features within two years of the university's procuring the product. It is recommended that campus procurement directors discuss among themselves ways to motivate vendors to adhere to accessibility standards within the two-year window.

Multimedia

It is recommended that all future media resources purchased at each USM institution should include captions. If it is determined that no captioned version exists, a plan should be made to caption the material, as needed. If the media cannot be captioned, an alternate accessible version, such as a transcript should be provided.

**General Procurement**

USM institutions should use the Voluntary Product Accessibility Template (VPAT) as a tool to assess a product's compliance with the accessibility standards. The purpose of the VPAT is to assist technology buyers in making decisions regarding the accessibility of commercial products. Vendors are responsible for documenting the accessibility of their products.

In addition to using the VPAT, those responsible for making procurement decisions at USM institutions should ask vendors specific questions about the product or service. These questions could be formatted into a matrix with scores to help technology buyers determine a product's overall suitability, such as:

- Has the product been tested by disability users? If so, what disability groups?
- What are the accessibility criteria used for testing the product? Do they meet WCAG 2.0 AA standards?
- Who will maintain the product for compliance?
- What is the system used to report and address accessibility problems to the company? What is the company's timeframe to review these reports and make changes to fix the reported accessibility problem?
- Are there other companies/agencies who have procured this same product, and can they be used as a reference?
- If the product is software, does it require a mouse? If the answer is no, the vendor could be asked to detach the mouse and demonstrate using only the keyboard.

Adopt a procurement statement consistent with that of COMAR 21.05.08.05 that demonstrates a commitment to procuring accessible technology, such as:

"Under State law, procured information technology and information technology services must: (1) provide equivalent access for effective use by both visual and nonvisual means; (2) present information in formats intended for both visual and nonvisual use; (3) if intended for use in a network, have the ability to be integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired; and (4) be obtained, whenever possible, without modification for compatibility with software and hardware for nonvisual access. The USM is committed to developing and procuring web-based technologies that meet the WCAG 2.0 AA standard. When accessibility is unavailable in a product, the USM institution will work with the vendor to establish a public commitment to accessibility at the WCAG 2.0 AA level by a date within two years of the notification. If the company will not commit to adhering in that window, the USM institution will consider the next possible product that achieves the standard or commits to it on a public roadmap within two years."

At each institution, IT operating funds should be allocated to allow for the potentially higher cost of accessible products that meet this higher standard.

**Guidelines for Accessible Information Resources**

Information resources provided by USM institutions must be accessible to individuals with disabilities, including those who use assistive technology such as screen readers. This includes information resources created, purchased or licensed, or otherwise provided by all institutional units, such as libraries, academic schools and departments, and service centers. Examples of information resources covered by these guidelines include printed materials, websites, databases, online library catalogs, electronic books, indexes to literature and other materials, full-text journal articles, and course materials made available through electronic reserve services or course management systems. Equal access for individuals with disabilities must include remote electronic access to information resources.

USM institutions and institutional departments that provide these various types of information resources should designate sufficient representatives to coordinate services for users with disabilities, ensure the availability and adequacy of assistive technologies in the libraries and/or other campus locations, and respond to requests for accessible information resources. These representatives should serve on each institution's Accessible Technology and Information Committee.

Staff within USM libraries and other institutional units that provide information resources should be prepared to assist users with inaccessible print or electronic materials by providing consultations, by providing readers or research assistants for users with vision impairments, or by timely provision of these information resources in alternate formats such as large print, electronic text and Braille. Staff assistance should be provided when needed to retrieve materials for individuals with disabilities.

USM institutions should ensure that assistive technologies are available for use in campus libraries or other institutional departments, such as CCTVs or screen magnification software, screen reading software, and writing software for users with vision impairments or learning disabilities.

**Monitoring Compliance**

Institutions should develop administrative methods and systems to ensure that individuals with disabilities have an equal opportunity to access online content per these guidelines, and to monitor compliance with the technical standards urged by these guidelines (WCAG 2.0 AA). Institutions should implement procedures to solicit, receive, and respond to feedback regarding any barriers to access, as well as feedback on how to improve accessibility of that content.

**Conclusion**

It is understood that the implementation of these guidelines and best practices will be a long-term endeavor for USM institutions. We recognize that the institutions are at various stages of technology and information accessibility and that each campus will approach its own accessibility initiatives based on these guidelines in a manner that is consistent with their priorities and available resources. However, institutions should make every effort to comply with these guidelines as soon as practicable given current accessibility expectations and obligations of public institutions of higher education. Although each institution will have its own campus plan, the significant benefit of addressing accessibility across USM institutions will be the many opportunities for collaboration and shared resources.