Ensuring Accessibility in OER
AMAC was created in 2005, as an initiative of the Board of Regents University System of Georgia, to help post-secondary disability services offices provide complete, timely, and efficient accommodations to the print-disabled students they serve.
Students with disabilities should be able to perceive and manipulate information provided by and referred to by the instructor with equivalent access to content and ease of use of materials as non-disabled students.
A (Brief) Accessibility Framework

<table>
<thead>
<tr>
<th>Framework</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal</td>
<td>Non-discrimination</td>
</tr>
<tr>
<td>Social</td>
<td>Diversity, Inclusion</td>
</tr>
<tr>
<td>Technical</td>
<td>Universal Design</td>
</tr>
<tr>
<td>Education</td>
<td>Motivation, Opportunity</td>
</tr>
</tbody>
</table>
Information Carriers for Teaching

- Text - alphabetic, numeric, symbolic, annotated, structured
- Images - static, sequential, continuous
- Audio
- Tactile
- Mixed media
Information Carriers for Assessment

• Interaction and expression - handwriting, text, graphics, forms, typing, mouse, gestures, speech, presentations…

• Kinesthetic - drawing, sculpting, movement…
Accessibility in the Marketplace

Accessible Media Sources

- Non-profit
- Government
- In-house
- Commercial
Accessibility and OER

Pros and Cons

• Partnerships with non-profit agencies
• Files are usually unsecured
• Mostly non-proprietary formats
• Rights and permissions well defined
• Limited resources for remediation
• Issues around standards and version control
Resources

Where to Start

• ALG Website
• USG, Accessibility, and The Law
• AMAC
Universal Design

Design for all users / Build it in from the start

• Documents that are designed using accessibility standards and guidelines are beneficial for all users.
• Documents designed using accessibility standards translate to mobile and other platforms more easily.
• Build accessibility into source documents.
• Make accessibility part of your workflow.
Who Are the Users?

Consider USERS with a variety of abilities and needs:

• Blind or visually impaired
• Motor disabilities
• *Learning disabilities – largest group of students served in GA
• Deaf or hard of hearing and require multimedia to be captioned

• Secondary group that can benefit – English language learners
What makes a Document Accessible?

Works with Assistive Technology

Screen readers rely on document markup language for navigation.

- JAWS
- NVDA
- Window-Eyes
- Magnification / Text enlargement
- Keyboard Access
- Text-to-Speech software

Assistive technology becoming mainstream:
VoiceOver – iPad and iPhone
<HTML>
<HEAD>
<TITLE>The University of Georgia</TITLE>
</HEAD>
<BODY>
<P>
<IMG SRC="ugaseal.gif">
<H1>University of Georgia</H1>
<P>
The University of Georgia is located in Athens, Georgia, 75 miles east of Atlanta. It was founded in 1785 and is the oldest state university.
</BODY>
</HTML>
Web Content Accessibility Guidelines WCAG 2.0

Framework

• Content must be **perceivable**.
• Interface components in the content must be **operable**.
• Content and controls must be **understandable**.
• Content should be **robust** enough to work with current and future user agents (including assistive technologies).
Formats

Use same standards and general techniques across formats

- MS Word Doc
- PDF
- ePub
- html
- xml
Main Features of Accessible Documents

- **Text** – not an image
- **Document** is structured with **Headings** for navigation – use **Styles**
  - **Headings** levels (<h1>, <h2>, <h3>)
  - Screen reader users use quick key commands to navigate documents by Heading levels. Screen readers rely on document markup language to identify Headings, links, etc.
- Images include **alternative text descriptions**.
- Charts, graphs, and tables include appropriate **alt text**.
- Provide **logical reading** order by properly formatting columns.
- Incorporate accessibility into Style Guides.
Tools

Use the built in tools of your authoring software – use Styles*

- Microsoft Word – Use Styles to add Headings
- iBooks author - Use Styles to add Headings
- Adobe InDesign - Map styles to PDF tags
- Dreamweaver – Format Headings
PDFs

- Create Accessible PDFs from accessible source files.
- Export tagged PDFs.
Alternative text descriptions

• Provide complete figure descriptions and captions – benefits all users.

• Identify the purpose of the image and convey that information.

• Give images accurate/contextual titles.
STEM content

Complex Data

• Simple tables
• Alternative text, summaries, comprehensive captions
• Provide source data
• MathML
• LaTeX

\[
\sum_{k=1}^{n} k = \frac{n(n+1)}{2} \approx \int_{0}^{n} x \, dx
\]
Supplementary Materials

PowerPoint Slides
• Templates
• Layout
• Reading order
• Outline view
• Export to PDF

Multimedia and Video
• Closed Captioned
Challenges

**Distribution and document management**

- Method of distribution can take a reasonably accessible document and make it less accessible
  - Scanned documents uploaded to LMS
  - Locked content
- Remediation is time consuming
- Alternative format may not be quickly or easily available to the student – student may get behind
- Alternative format may not be available in the format the student prefers or that works with their preferred AT.
Resources

- Creating Accessible MS Word Documents
- Adobe Indesign Character and Paragraph Styles
- PDF Accessibility Standards
- NCAM Image Description Resources
- WCAG 2.0 Guidelines Overview
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AMAC Accessibility Solutions and Research Center
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