



California Open Online Library for Education & Accessibility

COOL4Ed (the California Open Online Library for Education) was created so that faculty can easily find, adopt, utilize, review and/or modify free and open etextbooks for little or no cost. The COOL4Ed accessibility open textbook evaluations can inform faculty, staff, and students how the free and open etextbooks meet 15 accessibility “checkpoints” that could impact the learning of learners with a range of disabilities.

SUMMARY OF ACCESSIBILITY EVALUATION:

Textbook: Rhetoric and Composition
Format of Textbook: HTML

Assistive Technology (AT) Evaluation Score: Overall	9.1 (Maximum score = 10)
<p>Assistive Technologies (AT) Evaluations applies specialized tools and software in the accessibility evaluation process. These specialized assistive technologies, see list below, are typically not used or available by the general public into the accessibility evaluation process.</p> <ul style="list-style-type: none"> • Accessibility features of desktop operating systems (e.g. high-contrast display themes, settings from the Keyboard and Mouse control panels) • Accessibility-related software included with desktop operating systems (e.g. VoiceOver, Microsoft Narrator) • Third-party accessibility software and hardware: • Screen readers (e.g. JAWS, Window Eyes) • Magnification software (e.g. ZoomText Magnifier/Reader, MAGIC Pro with Speech) • Reading software for users with learning disabilities (e.g. Read and Write Gold, Kurzweil 3000) • Refreshable Braille displays 	
Non- Assistive Technology (NAT) Evaluation Score: Overall	8.8 (Maximum score =10)
<p>Non-Assistive Technologies (NAT) Evaluations applies only native or basic tools and software such as the keyboard and Narrator in the accessibility evaluation process. These non-assistive technologies are readily available and used by the general public.</p>	



COOL4Ed Accessibility Evaluation Methods:

The California State University [Accessible Technology Initiative](#) and [MERLOT](#) (Multimedia Educational Resources for Learning and Online Teaching) developed the rubric or “checkpoints” for the accessibility evaluation. [CAST](#), a nationally recognized organization with expertise in accessibility and UDL, reviewed and affirmed the appropriateness and value of the accessibility evaluation rubric and contributed the references and support resources to help people learn how best to design, evaluate, and remediate the learning materials to maximize the accessibility of the learning resources for all. The “checkpoints” have been built upon the Section 508 technical standards and has been organized and tailored to the typical characteristics of digital resources used in higher education courses.

The accessibility evaluations were performed by the [Center for Usability in Design and Accessibility](#) at California State University, Long Beach; faculty and graduate students with expertise in human factors, usability, and accessibility performed the evaluations of over 150 free and open etextbooks. COOL4ed.org has published the accessibility evaluation rubric and provides a detailed description of the methodology used to evaluate the accessibility of the etextbooks in COOL4ed.

LOOKING FOR DETAILED ACCESSIBILITY REPORTS?

[See Detailed Accessibility Evaluation Report using Assistive Technologies](#)

[See Detailed Accessibility Evaluation Report using Non-Assistive Technologies](#)



DETAILED ACCESSIBILITY EVALUATION REPORT using Assistive Technologies

Assistive Technologies (AT) Evaluations applies specialized tools and software in the accessibility evaluation process. These specialized assistive technologies, such as Kurzweil and NVDA, are typically not used or available by the general public into the accessibility evaluation process.

1. Accessibility Documentation

A. The organization providing the online materials has a formal accessibility policy.	Fail
Additional Information:	Found the Formal Accessibility Policy for the Merlot II website at info.merlot.org/merlothelp/index.htm#policies_and_practices.htm but not for the specific textbook. The Merlot website stated that there one result was found regarding the accessibility policy, however, the link that lead to the policy had a 404 error.
B. The organization providing the online materials has an accessibility statement.	Fail
Additional Information:	Found the Accessibility Statement for the Merlot II website at info.merlot.org/merlothelp/index.htm#policies_and_practices.htm but did not find any information for the specific book. The Merlot website stated that there one result was found regarding the accessibility statement, however, the link that lead to the policy had a 404 error.
C. An Accessibility Evaluation Report is available from an external organization.	Fail
Additional Information:	Found the Accessibility Evaluation Report for the Merlot II website at info.merlot.org/merlothelp/index.htm#policies_and_practices.htm but did not find it for the specific textbook. The Merlot website stated that there one result was found regarding the accessibility evaluation report, however, the link that lead to the policy had a 404 error.



2. Text Access

<p>A. The text of the digital resource is available to assistive technology that allows the user to enable text-to-speech (TTS) functionality.</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>Chapter 2 (Overview: The Writing Process) was evaluated. All of the text was read properly with no lines or words skipped.</p>

3. Text Adjustment

<p>A. Text is compatible with assistive technology.</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>Chapter 2 (Overview: The Writing Process) was evaluated. All of the text was able to zoom in and out without needing to horizontally scroll through the page.</p>
<p>B. The resource allows the user to adjust the font size and font/background color (or is rendered by an application such as a browser, media player, or reader) that offers this functionality).</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>Chapter 2 (Overview: The Writing Process) was evaluated. All of the text was able to adjust font and colors. The background and the text for all of chapter 2 adjusted to night mode.</p>

4. Reading Layout

<p>A. Text of the digital resource is compatible with assistive technology that allows the user to reflow the text by specifying the margins and line spacing (or is rendered by an application such as a browser, media player, or reader that offers this functionality).</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>All 30 webpages that were evaluated had text that reflowed properly into the next line without having to horizontally scroll through the page.</p>



B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	N/A
Additional Information:	Did not find a PDF format of the textbook.

5. Reading Order

A. The reading order for digital resource content logically corresponds to the visual layout of the page when rendered by assistive technology.	Pass
Additional Information:	0/5 pages had errors in its digital resource layout. The pages that were evaluated were 2.6, 3.2, 4.2, 5.3, and 5.7.7. These pages were read in order with no texts skipped along with the images and lists read in order. However, some lists, such as ones on 5.3, are listed as lists but when read aloud, the NVDA reader states that each item in the list is a list of one item. Each item in one list is another list with just one item, even though they are supposed to be together.

6. Structural Markup/Navigation

A. The text of the digital resource includes markup (e.g. tags or styles) that allows for navigation by key structural elements (chapters, headings, pages) using assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	Pass
Additional Information:	10 of the headings that I evaluated in Chapter 3 all worked with the NVDA reader assistive technology. I was able to navigate through all of the headings in these sections with no problem.
B. The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology (or is rendered by an application such as a browser,	Pass



media player, or reader that offers this functionality).	
Additional Information:	5/20 lists in Chapter 5.3 are not markup properly. 5 of the lists in Chapter 5.3 are read as individual items even though they are a part of the same list.
C. If the text of the digital resource is delivered within an ebook reader application, a method is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.	N/A
Additional Information:	

7. Tables

A. Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	Pass
Additional Information:	6/6 tables were read properly in the textbook. The tables were read aloud row by row and column by column depending on how you used the keyboard shortcuts. These tables can be found in 3.4, 5.5, 6.4, and 6.8.

8. Hyperlinks

A. In-book links take you to a location within the textbook. For example, the table of contents would be considered in-book links and embedded links take you to the correct location in the book.	N/A
Additional Information:	
B. Live hyperlinks take you to any website or webpages external to the book.	Pass



Additional Information:	1/20 links that were evaluated did not work. The only link out of the twenty that I evaluated lead to a site with a website that could not be found. This link was found in the Useful Links section for the Basic Copyright guidelines link. The other 19 links were found throughout the textbook and led to the described websites and pages in the textbook.
C. Live links take you to the correct webpage that is functioning properly.	Pass
Additional Information:	1/20 links that were evaluated did not work. The only link out of the twenty that I evaluated lead to a site with a website that could not be found. This link was found in the Useful Links section for the Basic Copyright guidelines link. The other 19 links were found throughout the textbook and led to the described websites and pages in the textbook.
D. Live links are descriptive enough for the users to know where it should take them.	Pass
Additional Information:	3/20 links were improperly described. These links are found in the Useful Links section in 5.7.8 under Basic Copyright Guidelines and Royalty-free music. These links were listed as URLs, and were therefore labeled improperly.

9. Color and Contrast

A. All information within the material that is conveyed using color is also available in a manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.	Pass
Additional Information:	Chapter 4 was evaluated and all of chapter 4 had consistent colored headings and links.
B. Information is conveyed from the sub-categories for contrast.	Pass



Additional Information:	Chapter 4 was evaluated and all of chapter 4 had proper contrast ratios for regular texts and large texts.
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	Pass
Additional Information:	Chapter 4 was evaluated and all of chapter 4 had headings with proper contrast ratios with blue color for the text and white for the background.
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	Pass
Additional Information:	Chapter 4 was evaluated and all of chapter 4 had text that had proper contrast ratios with black as the color for the text and white as the background.
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	N/A
Additional Information:	All images in the textbook were photographs of certain things. There were no simple images.

10.Language

A. The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology.	Pass
Additional Information:	Language markup was written in source code as English.
B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a manner that is compatible with assistive technology.	N/A
Additional Information:	



11.Images

<p>A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>Non-decorative images were described with more detail than just the captions beneath the images. Each image was also described as a link of the specific object that was in the photographs. The images that were evaluated can be found in chapters 4 and 5.</p>
<p>B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>The only decorative image in the book was in the title page and the title page image was skipped by the NVDA reader while reading the textbook.</p>
<p>C. Complex images, charts, and graphs have longer text descriptions that are compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader) that offers this functionality).</p>	<p>Pass</p>
<p>Additional Information:</p>	<p>Complex images such as the photographs were described with more detail other than just the captions beneath the image. The images were described with more information as links of what the image contains. The images that were evaluated can be found in chapters 4 and 5.</p>

12.Multimedia

<p>A. A synchronized text track (e.g. open or closed captions) is provided with all video content.</p>	<p>N/A</p>
<p>Additional Information:</p>	
<p>B. A transcript is provided with all audio content.</p>	<p>N/A</p>



Additional Information:	
C. Audio/video content is delivered via a media player that is compatible with assistive technology. This includes support for all criteria listed in Section 15 below.	N/A
Additional Information:	

13.Flickering

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	Pass
Additional Information:	No flickering content

14.Science, Technology, Engineering, and Math (STEM)

A. STEM figures have appropriate markup that indicates that the image is a figure.	N/A
Additional Information:	
B. STEM graphs have appropriate markup that indicates that the image is a graph.	N/A
Additional Information:	
C. STEM equations have appropriate markup that indicates that the image is an equation.	N/A
Additional Information:	
D. STEM tables have appropriate markup that indicates the image is a table.	N/A
Additional Information:	
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	N/A
Additional Information:	
F. STEM graphs have appropriate notation markup that conveys both the notation	N/A



(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	N/A
Additional Information:	
H. Assistive technology used can access the content from the STEM tables.	N/A
Additional Information:	

15. Interactive Elements

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g. annotations) allows keyboard-only operation both with and without assistive technology.	N/A
Additional Information:	
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	N/A
Additional Information:	
C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	N/A
Additional Information:	



DETAILED ACCESSIBILITY EVALUATION REPORT using Non-Assistive Technologies

Non-Assistive Technologies (NAT) Evaluations applies only native or basic tools and software such as the keyboard and Narrator in the accessibility evaluation process. These non-assistive technologies are readily available and used by the general public.

1. Accessibility Documentation

A. The organization providing the online materials has a formal accessibility policy.	Fail
Additional Information:	Not Included
B. The organization providing the online materials has an accessibility statement.	Fail
Additional Information:	Not Included
C. An Accessibility Evaluation Report is available from an external organization.	Fail
Additional Information:	Not Included

2. Text Access

A. The text of the digital resource is available to assistive technology that allows the user to enable text-to-speech (TTS) functionality.	Pass
Additional Information:	Text was converted to speech without a problem Chapter 1.

3. Text Adjustment

A. Text is compatible with assistive technology.	Pass
Additional Information:	It is possible to increase font size by percentages.
B. The resource allows the user to adjust the font size and font/background color (or is rendered by an application such as a browser, media player, or reader) that offers this functionality).	Pass



Additional Information:	Colors can be changed but font styles are restricted.
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4. Reading Layout

A. Text of the digital resource is compatible with assistive technology that allows the user to reflow the text by specifying the margins and line spacing (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	Pass
Additional Information:	Ch 2-3
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	N/A
Additional Information:	

5. Reading Order

A. The reading order for digital resource content logically corresponds to the visual layout of the page when rendered by assistive technology.	Pass
Additional Information:	Text is read in a logical order.

6. Structural Markup/Navigation

A. The text of the digital resource includes markup (e.g. tags or styles) that allows for navigation by key structural elements (chapters, headings, pages) using assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	N/A
Additional Information:	
B. The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology (or is rendered by an application such as a browser,	N/A



media player, or reader that offers this functionality).	
Additional Information:	
C. If the text of the digital resource is delivered within an ebook reader application, a method is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.	N/A
Additional Information:	

7. Tables

A. Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	N/A
Additional Information:	

8. Hyperlinks

A. In-book links take you to a location within the textbook. For example, the table of contents would be considered in-book links and embedded links take you to the correct location in the book.	N/A
Additional Information:	
B. Live hyperlinks take you to any website or webpages external to the book.	Pass
Additional Information:	
C. Live links take you to the correct webpage that is functioning properly.	Pass
Additional Information:	All links checked were functional (nav bar, links at the bottom of every page).



D. Live links are descriptive enough for the users to know where it should take them.	Pass
Additional Information:	Chapter links are descriptive, at the bottom of every page are links that are also descriptive.

9. Color and Contrast

A. All information within the material that is conveyed using color is also available in a manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.	Pass
Additional Information:	Headers are emphasized with boldface and bigger font, however links should be denoted by something other than color.
B. Information is conveyed from the sub-categories for contrast.	Pass
Additional Information:	
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	Pass
Additional Information:	Ratio is 21.0:1, however nav fails AAA normal text at 6.9:1
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	Pass
Additional Information:	Ratio is 15.24:1
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	N/A
Additional Information:	

10. Language

A. The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology.	Pass
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Additional Information:	Source declares language.
B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a manner that is compatible with assistive technology.	N/A
Additional Information:	

11.Images

A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	Pass
Additional Information:	Appropriate alt tags are used, see Conducting Meetings and Advantages to Collaboration.
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	N/A
Additional Information:	
C. Complex images, charts, and graphs have longer text descriptions that are compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader) that offers this functionality).	N/A
Additional Information:	

12.Multimedia

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	N/A
Additional Information:	
B. A transcript is provided with all audio content.	N/A
Additional Information:	



C. Audio/video content is delivered via a media player that is compatible with assistive technology. This includes support for all criteria listed in Section 15 below.	N/A
Additional Information:	

13.Flickering

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	Pass
Additional Information:	None Found

14.Science, Technology, Engineering, and Math (STEM)

A. STEM figures have appropriate markup that indicates that the image is a figure.	N/A
Additional Information:	
B. STEM graphs have appropriate markup that indicates that the image is a graph.	N/A
Additional Information:	
C. STEM equations have appropriate markup that indicates that the image is an equation.	N/A
Additional Information:	
D. STEM tables have appropriate markup that indicates the image is a table.	N/A
Additional Information:	
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	N/A
Additional Information:	
F. STEM graphs have appropriate notation markup that conveys both the notation	N/A



(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	N/A
Additional Information:	
H. Assistive technology used can access the content from the STEM tables.	N/A
Additional Information:	

15. Interactive Elements

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g. annotations) allows keyboard-only operation both with and without assistive technology.	N/A
Additional Information:	
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	N/A
Additional Information:	
C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	N/A
Additional Information:	



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