# 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:**          **Active Calculus**

**Format of Textbook:**    **PDF**

| Assistive Technology (AT) Evaluation Score: Overall | 6.3 (Maximum score = 10) |
|---|---|
| **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.<br><br>• Accessibility features of desktop operating systems (e.g. high-contrast display themes, settings from the Keyboard and Mouse control panels)<br>• Accessibility-related software included with desktop operating systems (e.g. VoiceOver, Microsoft Narrator)<br>• Third-party accessibility software and hardware:<br>• Screen readers (e.g. JAWS, Window Eyes)<br>• Magnification software (e.g. ZoomText Magnifier/Reader, MAGIC Pro with Speech)<br>• Reading software for users with learning disabilities (e.g. Read and Write Gold, Kurzweil 3000)<br>• Refreshable Braille displays | |
| Non- Assistive Technology (NAT) Evaluation Score: Overall | 7.8 (Maximum score =10) |
| **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. | |

# 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.

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## 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: | **Did not find any information about Creative Commons' formal accessibility policy.** |
| B.  The organization providing the online materials has an accessibility statement. | **Fail** |
| Additional Information: | **Did not find any information about Creative Commons' accessibility statement.** |
| C.  An Accessibility Evaluation Report is available from an external organization. | **Fail** |
| Additional Information: | **Did not find any  information about Creative Commons' accessibility evaluation report.** |

## 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: | **5/5 pages had proper text to speech capabilities (pg. 19, 146, 303, 424, 525). Normal text was read in a logical manner with no content skipped.** |

## 3.  Text Adjustment

| | |
|---|---|
| A.  Text is compatible with assistive technology. | **Pass** |
| Additional Information: | **5/5 pages were able to properly adjust font size (pg. 19, 146, 303, 424, 525). However, the reader had to** |

| | |
|---|---|
| | **horizontally scroll in order to read all of the content on the screen.** |
| 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: | **4/5 pages had proper adjustment of font and background colors (Pg. pg. 19, 146, 424, 525). The remaining page (Pg. 200) had a graph that had lines that remained black rather than changing to green.** |

## 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: | **5/5 pages had proper reflow of text (Pg. 19, 146, 303, 424, 525), but it is because the text did not readjust when zoomed in or out. The layout of the text remained the same.** |
| B.  If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material. | **N/A** |
| Additional Information: | **No printed version available.** |

## 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: | **5/5 pages had proper reading order (Pg. 19, 146, 304, 457, 525). Normal text had proper reading order and was read logically. However, graphs and equations** |

| | were not read in a way that made it easy for readers to understand. Graphs were not described and equations were not read logically. Despite the graphs and equations being skipped, the normal text was still read in a logical way that was easy to follow along. |
|---|---|

## *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). | **Fail** |
|---|---|
| Additional Information: | **0/27 pages had proper navigation of text (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548). Headers, lists, items, and tables were not found by the NVDA reader.** |
| 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, media player, or reader that offers this functionality). | **Fail** |
| Additional Information: | **0/10 lists were properly navigable using the NVDA hotkeys (Pg. 17, 18, 100(2), 101, 200, 315, 316, 318 328). While reading the textbook, the reader would state "No next 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: | **No eReader application.** |

## 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). | **Fail** |
|---|---|
| Additional Information: | **0/10 tables had proper table markup (Pg. 17, 100, 304, 343, 345(2), 455, 467(2)). When the NVDA reader was reading through the textbook, the NVDA reader would state "No next table" when the table hotkey was pressed.** |

## 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. | **Pass** |
|---|---|
| Additional Information: | **30/30 within book hyperlinks were properly functioning (Pg. 5(2), 12(6), 18(3), 19, 20, 23, 52, 130, 146, 154, 162, 191, 200, 205(3), 316, 317(3), 416, 424). They connected to the correct places within the textbook.** |
| B. Live hyperlinks take you to any website or webpages external to the book. | **Fail** |
| Additional Information: | **19/20 live hyperlinks had proper functionality (Pg. 3(5), 9(2), 10(3), 12, 13(3), 14(5)). The remaining link was connected to a blank page online (Pg. 52). 2/20 live hyperlinks had proper description of the hyperlink and where it would lead to online (Pg. 10, 14). The remaining 18 hyperiinks were labeled as URLs (Pg. 3(5), 9(2), 10(2), 12, 13(3), 14(4), 52).** |
| C. Live links take you to the correct webpage that is functioning properly. | **Pass** |

| Additional Information: | **19/20 live hyperlinks had proper functionality (Pg. 3(5), 9(2), 10(3), 12, 13(3), 14(5)). The remaining link was connected to a blank page online (Pg. 52).** |
|---|---|
| D. Live links are descriptive enough for the users to know where it should take them. | **Fail** |
| Additional Information: | **2/20 live hyperlinks had proper description of the hyperlink and where it would lead to online (Pg. 10, 14). The remaining 18 hyperiinks were labeled as URLs (Pg. 3(5), 9(2), 10(2), 12, 13(3), 14(4), 52).** |

## 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: | **27/27 pages had consistent color redundancy (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548). Headers, links, and text were consistently black and blue against a white background.** |
| B. Information is conveyed from the sub-categories for contrast. | **Pass** |
| Additional Information: | **27/27 pages had headers that were black against a white background (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548). 27/27 pages had text that was black against a white background (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548). 27/27 pages had simple images that were black and white (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548).** |
| C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1). | **Pass** |
| Additional Information: | **27/27 pages had headers that were black against a white background (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548).** |
| D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1). | **Pass** |

| Additional Information: | **27/27 pages had text that was black against a white background  (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548).** |
| --- | --- |
| E.  Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1). | **Pass** |
| Additional Information: | **27/27 pages had simple images that were black and white  (Pg. 17-27, 100, 213, 315-318, 479, 512-519, 548).** |

## 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. | **N/A** |
| --- | --- |
| Additional Information: | **Do not have Adobe Pro/Complete version.** |
| 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: | **Do not have Adobe Pro/Complete version.** |

## 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). | **Fail** |
| --- | --- |
| Additional Information: | **0/55 pages had images that were properly described by the NVDA reader (Pg. 19-30, 200-220, 300-380, 450-500, 540). Images were only described by their captions and the captions did not contain enough information to describe what was in the image. A reader with visual impairment would not be able to** |

| | |
|---|---|
| | **understand what was contained in the images based on just the captions.** |
| 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: | **No decorative images found.** |
| 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). | **Fail** |
| Additional Information: | **0/55 pages had images that were properly described by the NVDA reader (Pg. 19-30, 200-220, 300-380, 450-500, 540). Images were only described by their captions and the captions did not contain enough information to describe what was in the image. A reader with visual impairment would not be able to understand what was contained in the images based on just the captions.** |

## 12. Multimedia

| | |
|---|---|
| A.  A synchronized text track (e.g. open or closed captions) is provided with all video content. | **N/A** |
| Additional Information: | **No multimedia content found.** |
| B.  A transcript is provided with all audio content. | **N/A** |
| Additional Information: | **No multimedia content found.** |
| 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: | **No multimedia content found.** |

## 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. | **Pass** |
|---|---|
| Additional Information: | **10/10 figures had proper markup (Pg. 203, 209, 211, 212, 216, 301, 338, 340, 343, 346). All figures were labeled as figures.** |
| B. STEM graphs have appropriate markup that indicates that the image is a graph. | **Fail** |
| Additional Information: | **0/10 graphs had proper markup (Pg. 19, 23, 24, 25, 200, 205, 300, 304, 457, 458). None of the graphs were labeled as graphs. Instead, they were labeled as figures.** |
| C. STEM equations have appropriate markup that indicates that the image is an equation. | **Pass** |
| Additional Information: | **10/10 equations had proper markup (Pg. 18(2), 19(3), 20, 200, 204(2), 301). All equations were visible and none of them were blacked out.** |
| D. STEM tables have appropriate markup that indicates the image is a table. | **Fail** |
| Additional Information: | **0/10 tables had proper markup  (Pg. 17, 100, 304, 343, 345(2), 455, 467(2)). Tables were not labeled as tables.** |
| E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content. | **Fail** |
| Additional Information: | **0/10 figures had proper notation markup (Pg. 203, 209, 211, 212, 216, 301, 338, 340, 343, 346). None of the figures were properly described well enough so** |

| | that a reader with visual impairment would be able to understand what was in the figures. Only the captions of each image was read aloud and the captions did not contain enough information to properly describe what was in the figures. |
|---|---|
| F.  STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content. | **Fail** |
| Additional Information: | **0/10 graphs had proper notation markup (Pg. 19, 23, 24, 25, 200, 205, 300, 304, 457, 458). None of the figures were properly described well enough so that a reader with visual impairment would be able to understand what was in the figures. Only the captions of each image was read aloud and the captions did not contain enough information to properly describe what was in the figures.** |
| G.  STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content. | **Fail** |
| Additional Information: | **0/10 equations had proper notation markup (Pg. 18(2), 19(3), 20, 200, 204(2), 301). Equations were not read in a logical order. They were not easy to understand when the NVDA reader read them aloud. Decimals were pronounced as colons and minus signs were skipped.** |
| H.  Assistive technology used can access the content from the STEM tables. | **Fail** |
| Additional Information: | **0/10 tables had proper notation markup (Pg. 17, 100, 304, 343, 345(2), 455, 467(2)). When the NVDA reader was reading through the textbook, the NVDA reader would state "No next table" when the table hotkey was pressed.** |

### 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: | **No interactive elements found.** |
| 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: | **No interactive elements found.** |
| 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: | **No interactive elements found.** |

# 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: | **No Content Found.** |
| B. The organization providing the online materials has an accessibility statement. | **Fail** |

| Additional Information: | **No Content Found.** |
|---|---|
| C. An Accessibility Evaluation Report is available from an external organization. | **Fail** |
| Additional Information: | **No Content Found.** |

## 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: | **Pgs 1-5 were checked. The text is available to assisstive technology that allows user to enable text-to-speech functionality.** |

## 3. Text Adjustment

| A. Text is compatible with assistive technology. | **Pass** |
|---|---|
| Additional Information: | **Pgs 1-5 nwere checked. Whent the window page chaged in size, no horizontal bar appeared. The font size of all pages checked could be adjusted.** |
| 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: | **Pgs 1-5 were checked. When changing the font/background color to green text on black, the background color changed to black, and the font color changed to green.** |

## 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 | **Pass** |
|---|---|

| | |
|---|---|
| such as a browser, media player, or reader that offers this functionality). | |
| Additional Information: | **Pgs 1-5 were checked. I was able to reflow the text, and the text was compatible with assistive technology.** |
| B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material. | **N/A** |
| Additional Information: | **Need additional information. We do not have printed material to compare it too.** |

## 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: | **Pgs 27-32 were checked. The reading order was logical on all five pages.** |

## 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). | **Fail** |
| Additional Information: | **No method provided that allows user to bypass sections of text. The tagged PDF, Title, and Headings all failed using the accessibility checker. Bookmarks passed using the accessibility checker.** |
| A. 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, | **Fail** |

| | |
|---|---|
| media player, or reader that offers this functionality). | |
| Additional Information: | **No markups found. The Tagged PDF, Title, and Headings all failed. Bookmarks passed using the accessibility checker.** |
| B. 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: | **No additional eReader used.** |

## 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). | **Fail** |
| Additional Information: | **Tables on pages 259, 327, 345, 360, and 451 were checked manually. The text to speech function seperated and read the tables by row. Using the accessibilkity checkeer, the rows, TH and TD, headers and regularity all failed.** |

## 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. | **Pass** |
| Additional Information: | **30/30 total in-book links worked. All links appeared to be links but did not function as links. Nothing hapened when I clicked on all 30 links. ---> (Beginning) Pgs iii-iv were checked=(10/10)** |

| | |
|---|---|
| | hyperlinks worked. ---> (Middle) Pgs 250-255 were checked=(10/10) all hyperlinks did work ---> (End) Pg's 528-532 were checked=(10/10) all hyperlinks did work---> Using the accessibiility checker, navigations links  passed. |
| B.  Live hyperlinks take you to any website or webpages external to the book. | **Pass** |
| Additional Information: | **20/20 live links worked. Pgs ii, ii, vii, viii, x, xi, xii, and 25 were checked. However only 3 had descriptions.** |
| C.  Live links take you to the correct webpage that is functioning properly. | **Pass** |
| Additional Information: | **20/20 live links worked. Pgs ii, ii, vii, viii, x, xi, xii, and 25 were checked.** |
| D.  Live links are descriptive enough for the users to know where it should take them. | **Fail** |
| Additional Information: | **3/20 live links had a description. Pgs ii, ii, vii, viii, x, xi, xii, and 25 were checked. 17 out of the 20 links were in html (URL) form and did not have a description on where the link would take you. 3 out of the 20 links had descriptive information on where the links would take you.** |

## 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: | **Pgs 1-28 were checked. Information not conveyed by color alone. Size of font, and type of font (Bold versus Non-Bold font) were used. The chapter headings were in black font, bold font, and the size was larger than the rest of the text. Learning objective headings were in black and capatiized, however, they were smaller than chapter headings.** |

| | |
|---|---|
| | **In addition, within book links and live links are in blue font color.** |
| B. Information is conveyed from the sub-categories for contrast. | **Pass** |
| Additional Information: | **Pgs 1-28 were checked. Most pages had the contrast ratio of 4.51:1 and above (18.33.1). Chapter headings passed with a ratio of 21.0:1. Links were blue in color with a ratio of 7.05:1.** |
| C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1). | **Pass** |
| Additional Information: | **Pgs 1-28 were checked. The chapter headings were in black font, bold font, and the size was larger than the rest of the text. They had a ratio of 21.0:1.** |
| D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1). | **Pass** |
| Additional Information: | **Pgs 1-28 were checked. Most of the text was avove the ratio 4.51:1 (18.33.1). The blue text had a ratio of 7.05:1.** |
| E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1). | **Pass** |
| Additional Information: | **Pgs 1-28 were checked. Simple images passed with a ratio of 4.51:1 and above. (Example on page 7 with ratio of 21.0:1.)** |

## 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: | **Using the accessiblity checker the primary language passed.** |
| B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a | **Pass** |

| manner that is compatible with assistive technology. | |
|---|---|
| Additional Information: | **Using the accessibility checker the primary language passed.** |

## 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). | **N/A** |
|---|---|
| Additional Information: | **No non-decorative images found.** |
| 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: | **No Decorative Images.** |
| 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). | **Fail** |
| Additional Information: | **10/10 image descriptions did convey meaning. Pgs 3, 7, 8, 9, 12, 14, 15, 18, 20, and 23 had images and were checked. All images did contain descriptions. Using the accessibility checker, figures alternate text failed.** |

## 12. Multimedia

| A. A synchronized text track (e.g. open or closed captions) is provided with all video content. | **N/A** |
|---|---|
| Additional Information: | **No content found.** |
| B. A transcript is provided with all audio content. | **N/A** |
| Additional Information: | **No content found.** |

| 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: | **No content found.** |

## 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: | **Pgs 17-27 were checked. No flickering content was observed. Using the accessibility checker, screen flicker passed.** |

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

| A. STEM figures have appropriate markup that indicates that the image is a figure. | **Pass** |
|---|---|
| Additional Information: | **10/10 figure markups did convey meaning. Pgs 3, 7, 8, 9, 12, 14, 15, 18, 20, and 23 all had images and were checked. Overall the (labels/tags) did convey meaning. ---> Graphs were labeled as figures. All figures found in these pages were graphs and were checked. Overall the figure labels/tags did convey meaning.** |
| B. STEM graphs have appropriate markup that indicates that the image is a graph. | **N/A** |
| Additional Information: | **All graphs are named as figures.** |
| C. STEM equations have appropriate markup that indicates that the image is an equation. | **N/A** |
| Additional Information: | **No Equations found.** |
| D. STEM tables have appropriate markup that indicates the image is a table. | **Pass** |
| Additional Information: | **9/9 table markups did provide enough information to convey meaning. Only 9 tables were found** |

| | throughout the book. Pages 259, 327, 345, 360, 451, 459, 464, 477, and 482 had tables and were checked. Overall markups did convey meaning. |
|---|---|
| E.  STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content. | **Pass** |
| Additional Information: | **10/10 notation markups were sufficient to convey meaning. Pgs 3, 7, 8, 9, 12, 14, 15, 18, 20, and 23 all had figures and were checked. The notation markups were sufficient enought to convey presentation. ---> The graphs were labeled under figures.** |
| F.  STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content. | **N/A** |
| Additional Information: | **All graphs are named as figures.** |
| G.  STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content. | **N/A** |
| Additional Information: | **No Equations found.** |
| H.  Assistive technology used can access the content from the STEM tables. | **Pass** |
| Additional Information: | **9/9 table markups did provide enough information to convey meaning.  Only 9 tables were found throughout the book. Pages 259, 327, 345, 360, 451, 459, 464, 477, and 482 had tables and were checked. Notation markups were sufficient enough to convey presentation.** |

## 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. | **Pass** |

| | |
|---|---|
| Additional Information: | **On page 5, there are within-book links and I am able to use my tab key and enter key to navigate the book. Markups were sufficient enough to convey meaning.** |
| B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected"). | **Pass** |
| Additional Information: | **On page 5, there are within-book links and I am able to use my tab key and enter key to navigate the book.** |
| 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: | **No Interactive Elements Present.** |

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