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: **Introductory Statistics (OpenStax)**
Format of Textbook: **HTML**

Assistive Technology (AT) Evaluation Score: Overall	**6.5 (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. • 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	**6.4 (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.

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:	**There were no links provided for additional information regarding the formal accessibility policy. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
B. The organization providing the online materials has an accessibility statement.	**Fail**
Additional Information:	**There were no links provided for additional information regarding the accessibility statement. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
C. An Accessibility Evaluation Report is available from an external organization.	**Fail**
Additional Information:	**There were no links provided for additional information regarding accessibility. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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.	**Fail**
Additional Information:	**0/2 chapters were analyzed and passed text to speech. Chapters 5 and 6 were used for this analysis.**

	Although the NVDA program was able to read the text content, it would sometimes start in the middle of a sentence or in the middle of a paragraph. This section received a score of 5, which is failing, due to the fact that the reader did read most of the text but failed to perform adequately. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.

3. *Text Adjustment*

A. Text is compatible with assistive technology.	**Pass**
Additional Information:	**2/2 chapters were analyzed and passed text size compatibility. Chapters 5 and 6 were used for this analysis. The text content of the chapters allowed for adequate text size adjustment between the ranges of 30% to 300% zoom. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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:	**2/2 chapters were analyzed and passed. Chapters 5 and 6 were analyzed and allowed for adequate adjustment of the font/background color. The tool used to analyze this component was the Google extension "Care your Eyes". Google chrome was used to access the book online.**

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:	**30/30 web pages were analyzed and passed. All content was taken from chapters 1 through 4. All of the web pages analyzed allowed for adequate text reflow between 30% and 300% zoom levels. Horizantal scrolling was not required. Results may vary depending on screen size. Text reflow was analyzed using a standard Toshiba laptop with a 16 inch screen size. Google chrome was used to access the book online.**
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	**N/A**
Additional Information:	**0/0 web pages were analyzed and passed for matching page number content in the PDF version. There was a PDF version of this text, however, the HTML version of the book does not provide page numbers to compare with the PDF version. The content covered in each chapter and section is the same in both the HTML and PDF versions. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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 were analyzed and passed for digital resource layout. Chapter 5 was used for this analysis. The reading order for digital resource content logically corresponded to the visual layout of the page when rendered by assistive technology. The program used to analyze the digital resource layout was NVDA which is an open source screen reader for**

	Windows. Google chrome was used to access the book online.

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:	**2/2 chapters were analyzed and passed markup for navigational text. Chapters 5 and 6 were used to analyze navigational text. The text of the digital resource included markup that allowed for navigation by heading levels using assistive technology. All level 1 headings were black text on a white background, all level 2 and 3 headings were dark blue on a white background. The program used to analyze navigational text was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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).	**Pass**
Additional Information:	**12/12 lists were analyzed and passed for structural markup of lists. Chapters 5 and 6 were used to analyze lists. The text of the digital resource included markup for bullets and numbered lists that was compatible with assistive technology. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
C. If the text of the digital resource is delivered within an ebook reader application, a method	**N/A**

is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.	
Additional Information:	**0/0 text content analyzed for structural markup for eReader application. No additional eReader application being used in this evaluation. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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:	**4/10 tables were analyzed and passed markup. Tables were taken from chapters 5 through 7. Passing data tables included markup that identified row and column headers in a manner that was compatible with assistive technology, however, the failing tables from chapters 6 and 7 did not provide adequate information regarding content. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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:	**The within book links are included in the live links analysis for HTML formats.**
B. Live hyperlinks take you to any website or webpages external to the book.	**Pass**
Additional Information:	**This is a combined average of the following two subsections of the links description and functionality. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
C. Live links take you to the correct webpage that is functioning properly.	**Pass**
Additional Information:	**50/50 links were analyzed and passed for functionality. The links were taken from the table of contents section. The links took you to the correct location. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
D. Live links are descriptive enough for the users to know where it should take them.	**Pass**
Additional Information:	**50/50 links were analyzed and passed for link description. The links were taken from the table of contents section. There was adequate descriptions of the passing links that aided in determining where they would take you. The program used to analyze text content was NVDA which is an open source screen reader for Windows.**

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.	**Fail**
Additional Information:	**0/2 chapters were analyzed and passed for color redundancy. Chapters 1 and 6 were analyzed. The text content was not color redundant in that it did**

	not provided adequate means of distinguishing the content aside from color. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.
B. Information is conveyed from the sub-categories for contrast.	**Pass**
Additional Information:	**This is an average score taken from the combined sub sections of the color and contrast field. The content was analyzed using the color contrast analyzer tool. Google chrome was used to access the book online.**
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	**Pass**
Additional Information:	**2/2 chapters headings were analyzed and passed for adequate color contrast. Chapters 5 and 6 were used for analysis. All level 1 headings were black text on a white background, all level 2 and 3 headings were dark blue on a white background. The content was analyzed using the color contrast analyzer tool. Google chrome was used to access the book online.**
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	**Pass**
Additional Information:	**2/2 chapters text samples were analyzed and passed for adequate color contrast. Text samples were taken from chapters 5 and 6. The text was black on a white background. The content was analyzed using the color contrast analyzer tool. Google chrome was used to access the book online.**
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	**N/A**
Additional Information:	**0/0 simple images were analyzed and passed for adequate color contrast. Chapters 5 and 6 did not contain any simple images that required color contrast. The content was analyzed using the color**

	contrast analyzer tool. Google chrome was used to access the book online.

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:	**The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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:	**The digital resource did not include passages in a foreign language. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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:	**2/2 non-decorative images were analyzed and passed. Chapters 5 and 6 were used for this analysis. Alternate text descriptions are provided for each image that are compatible with assistive technology. The program used to analyze text content was NVDA**

	which is an open source screen reader for Windows. Google chrome was used to access the book online.
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:	**0/0 decorative images were analyzed and passed. No decorative images were found in chapters 5 or 6. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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:	**0/0 complex images were analyzed and passed. No complex images were found in chapters 5 or 6. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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 were found within the text resource. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
B. A transcript is provided with all audio content.	**N/A**
Additional Information:	**No multimedia were found within the text resource. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
C. Audio/video content is delivered via a media player that is compatible with assistive	**N/A**

technology. This includes support for all criteria listed in Section 15 below.	
Additional Information:	**No multimedia were found within the text resource. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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:	**While analyzing book material there was no flickering on any of the pages. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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

A. STEM figures have appropriate markup that indicates that the image is a figure.	**Fail**
Additional Information:	**6/10 figures were analyzed and passed. STEM figures were taken from chapters 1 and 5. The passing figures are marked up in a manner that is compatible with assistive technology, however, the failing figures were not recognized by the reader. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
B. STEM graphs have appropriate markup that indicates that the image is a graph.	**Fail**
Additional Information:	**0/10 graphs were analyzed and passed. The STEM graphs were taken from chapter 1. The graphs were not marked up in a manner that is compatible with assistive technology. The program used to analyze text content was NVDA which is an open source**

	screen reader for Windows. Google chrome was used to access the book online.
C. STEM equations have appropriate markup that indicates that the image is an equation.	**Fail**
Additional Information:	**0/10 equations were analyzed and passed. STEM equations were taken from chapter 5. The figures were not marked up in a manner that is compatible with assistive technology. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
D. STEM tables have appropriate markup that indicates the image is a table.	**Pass**
Additional Information:	**7/10 tables were analyzed and passed. STEM tables were taken from chapter 1. The passing tables are marked up in a manner that is compatible with assistive technology, however, the 3 failing tables did not contain markup that was compatible with assistive technology. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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 figures were analyzed and passed. STEM figures were taken from chapters 1 and 5. The resource conveys both the notation (presentation) and meaning (semantics) of the STEM content. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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 were analyzed and passed. The STEM graphs were taken from chapter 1. The resource did not adequately convey both the notation (presentation) and meaning (semantics) of the STEM content. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**Pass**
Additional Information:	**10/10 equations were analyzed and passed. STEM equations were taken from chapter 5. The resource conveys both the notation (presentation) and meaning (semantics) of the STEM content. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
H. Assistive technology used can access the content from the STEM tables.	**Pass**
Additional Information:	**10/10 tables were analyzed and passed. STEM tables were taken from chapter 1. The resource conveys both the notation (presentation) and meaning (semantics) of the STEM content. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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 were found within the text resource. The program used to analyze text content was NVDA which is an open source screen reader for**

	Windows. Google chrome was used to access the book online.
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 were found within the text resource. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**
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 were found within the text resource. The program used to analyze text content was NVDA which is an open source screen reader for Windows. Google chrome was used to access the book online.**

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:	**There was no URL to the Formal Accessibility Policy provided.**
B. The organization providing the online materials has an accessibility statement.	**Fail**
Additional Information:	**There was no URL to the Accessibility Statement.**
C. An Accessibility Evaluation Report is available from an external organization.	**Fail**
Additional Information:	**There was no URL 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:	**2/2 chapters passed. Chapter 1 and 12 were checked and the text to speech application skips major sections (ex. Chapter 1 Introduction). The summary on top of every section/ subsection (ex . 1.1) is skipped. There is also a chapter objectives section that states "by the end of this chapter, the student should be able to: " and the bullet points are below, the reader skips Chapter Objectives, and only reads "By the end of this chapter...." but skips the bullet points below it and just starts reading the content/body paragraphs. Images and figures with exercises are also skipped by the reader.**

3. Text Adjustment

A. Text is compatible with assistive technology.	**Pass**
Additional Information:	**2/2 chapters passed. The text of this book can be changed in size (smaller and larger).**
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).	**Fail**
Additional Information:	**0/2 Chapters passed. The text and book does not change color at all. It stays exactly the same (white and blue page format).**

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).	**Fail**
Additional Information:	**0/30 pages passed. Chapter 1 and 2 and 7 and 8 and 12 and 13 were checked.The text of this book can be changed in size but the reflow of the information on the page get out of order, when it hits zoom at level 110 stuff begins to be overlaping each other.**
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	**N/A**
Additional Information:	**N/A, the book is not numbered.**

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.	**N/A**

Additional Information:	**No Assistive technology was used.**

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:	**No Assistive technology was used.**
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).	**N/A**
Additional Information:	**No Assistive technology was used.**
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 Assistive technology was 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).	**N/A**
Additional Information:	**No Assistive technology was used.**

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:	**N/A, all links are considered live.**
B. Live hyperlinks take you to any website or webpages external to the book.	**Pass**
Additional Information:	**1/1 links passed.Section 2.4 has a link to the calculator site and it works and opend a new page on your screen, which is good.**
C. Live links take you to the correct webpage that is functioning properly.	**Pass**
Additional Information:	**Section 2.4, the link that takes you the calculator site works.**
D. Live links are descriptive enough for the users to know where it should take them.	**Pass**
Additional Information:	**Section 2.4, the link to the calculator works and is descriptive because it is the name of the name of the calculator company so the user can predict they will be going to their main page.**

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:	**2/2 Chapters passed. Chapter 1 and 10 were checked and the headings and subheading are different colors and sizes, if someone is color blind they can tell there is a difference like heading vs. body text, but within the body there are blue text and they are not underlined or told in any other element.**

B. Information is conveyed from the sub-categories for contrast.	**Pass**
Additional Information:	**2/2 Chapters passed. Chapter 2 and 13 were checked and the section heading passed (both AA sub heading and text passed).**
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	**Pass**
Additional Information:	**Chapter 2 and 13 were checked and the section heading passed (both AA sub heading and text passed).**
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	**Pass**
Additional Information:	**Chapter 2 and 13 were checked and the section heading passed (both AA sub heading and text passed).**
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	**N/A**
Additional Information:	**N/A, All complex data.**

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:	**English language was directly stated in the code.**
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:	**No other language was specified in the code.**

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:	**N/A, All stem content.**
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	**Fail**
Additional Information:	**0/2 chapters passed. There is a decorative image in Chapter 1 and 2 in their introduction section, although the reader can skip them, they are both labeled as Figure 1, this is not consistent with human information processing because two diferent things are labeled with the same title which will confuse readers and cause fustration.**
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:	**N/A, No complex images found. ALL stem content.**

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 found in textbook.**
B. A transcript is provided with all audio content.	**N/A**
Additional Information:	**No Multimedia found in textbook.**
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 found in textbook.**

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 data was found in the book.**

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:	**N/A, No assistive technology was used.**
B. STEM graphs have appropriate markup that indicates that the image is a graph.	**N/A**
Additional Information:	**N/A, No assistive technology was used.**
C. STEM equations have appropriate markup that indicates that the image is an equation.	**N/A**
Additional Information:	**N/A, No assistive technology was used.**
D. STEM tables have appropriate markup that indicates the image is a table.	**N/A**
Additional Information:	**N/A, No assistive technology was used.**
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 figure pass. Figure 1, in section 1.1 and 2.1, 4.1, 5.1, 6.2, 7.1, 8.2, 10.2, 11.1, 12.1 all has a exercise and STEM content (plot line) but it is skipped by the reader and it is before the body content, this is bad placement because the reader will skip this exercise since the reader skips it, deeming in unimportant.**
F. STEM graphs have appropriate notation markup that conveys both the notation	**Fail**

(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	**0/10 graphs pass. Section 2.1 there is a plot graph that is labeled as Figure 1, this is very confusing because at the beginning of the chapter, the initial decorative image, there is a figure 1 already, but these two figures are completely different because the introduction figure 1 is an image of non STEM content and the figure 1 in section 2.1 it is a STEM graph. Section 2.2 has a bar graph on the exercise section and it is also labeled figure 1. There is also another bar graph labeled figure 2, but it is not titled. There is also a plot graph on this section, it is labeled figure 3 but there is not title. There is also a figure 4 plot chart with 2 major categories but there is no key provided so it is hard to tell which line stands for what. Chapter 2.4 has 5 whisker plots that are not labeled appropriately or distinguishable from body text.**
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**Pass**
Additional Information:	**10/10 equations passed. Section 1.1 has the probability equations, it is explained and under the appropriate section. It is easily found and understood because of the example provided. Section 2.2 has the relative frequecy equation, it is large and easily identified plus it has the key to what the variables stand for and an example. In section 2.3, there is an equation for the mean and interquartile range, and percentile they are labeld and explaine with an example. Section 11.1 chi square goodness of fit equation is explained and labeled. 11.3 test of independence equations, 11.4 homogeneity test, section 11.5 population vairance equation, section 12.1 linear regression equation, section 12.3 best fit equations , section 13.2 sum of**

	squares and mean square equations are all explained and labeled.
H. Assistive technology used can access the content from the STEM tables.	**Fail**
Additional Information:	**0/10 tables pass.Section 2.1 here are 4 tables of stem plot information and presidents information but it is not labeled nor titled, this is bad because the table is simply floating and there should be a distinction between table and body text, the tables also build off each other so there should be a clear way to label them for reference to the changes, these 4 fails. 2.3, there are 4 tables with data values and its corresponding frequency, it is not labeled nor titled, this is bad because the table is simply floating and there should be a distiction between table and body text, the tables also build off each other so there should be a clear way to label them for reference to the changes, these 4 fail. There are 2 tables in section 11.1 with data for chi square equations, but they are not labeled or titled.**

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:	**There is an interactive flow chart at the top of the page that shows you with fill in content how far along you are in the textbook, plus the back and next buttons with arrows. This can be controlled by both a direct click and the tab feature.**
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.**

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.**