



## 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:** Principles of MicroEconomics (OpenStax)  
**Format of Textbook:** HTML

<b>Assistive Technology (AT) Evaluation Score: Overall</b>	<b>8.1 (Maximum score = 10)</b>
<p><b>Assistive Technologies (AT) Evaluations</b> 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"> <li>• Accessibility features of desktop operating systems (e.g. high-contrast display themes, settings from the Keyboard and Mouse control panels)</li> <li>• Accessibility-related software included with desktop operating systems (e.g. VoiceOver, Microsoft Narrator)</li> <li>• Third-party accessibility software and hardware:</li> <li>• Screen readers (e.g. JAWS, Window Eyes)</li> <li>• Magnification software (e.g. ZoomText Magnifier/Reader, MAGIC Pro with Speech)</li> <li>• Reading software for users with learning disabilities (e.g. Read and Write Gold, Kurzweil 3000)</li> <li>• Refreshable Braille displays</li> </ul>	
<b>Non- Assistive Technology (NAT) Evaluation Score: Overall</b>	<b>5.7 (Maximum score =10)</b>
<p><b>Non-Assistive Technologies (NAT) Evaluations</b> 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.

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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.	<b>Fail</b>
Additional Information:	<b>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>
B. The organization providing the online materials has an accessibility statement.	<b>Fail</b>
Additional Information:	<b>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.</b>
C. An Accessibility Evaluation Report is available from an external organization.	<b>Fail</b>
Additional Information:	<b>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.</b>

### 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.	<b>Fail</b>
Additional Information:	<b>0/3 chapters were analyzed and passed text to speech. Chapters 1 through 3 were used for this</b>



	<p>analysis. Although the NVDA program was able to read the text content, it paused every time it came to a word that was bolded. Once the NVDA reader was manually started after pausing, some of the words in the sentence were missing. The reader would skip three or four words before beginning to read again or sometimes entire sentences. 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.</p>
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### 3. Text Adjustment

<p>A. Text is compatible with assistive technology.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters were analyzed and passed text size compatibility. Chapters 1 through 3 were used for this analysis. The text content of the chapter 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></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><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters were analyzed and passed. Chapters 1 through 3 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.</b></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><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>30/30 web pages were analyzed and passed. Content was taken from chapters 1 through 7. All of the web pages analyzed allowed for adequate text reflow between 30% and 300% zoom levels. Horizontal 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></p>
<p>B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>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.</b></p>

#### 5. Reading Order

<p>A. The reading order for digital resource content logically corresponds to the visual layout of the page when rendered by assistive technology.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>5/5 pages were analyzed and passed for digital resource layout. Chapters 1 through 5 were used for this analysis. The reading order for digital resource</b></p>



	<p>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.</p>
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## 6. Structural Markup/Navigation

<p>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).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters were analyzed and passed markup for navigational text. Chapters 1 through 3 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 heading levels were black text on a white background and level 2 headings were dark blue text 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></p>
<p>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).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>10/10 lists were analyzed and passed for structural markup of lists. Chapters 1 through 3 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</b></p>



	<b>open source screen reader for Windows. Google chrome was used to access the book online.</b>
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.	<b>N/A</b>
Additional Information:	<b>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.</b>

## 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).	<b>Fail</b>
Additional Information:	<b>0/10 tables were analyzed and passed markup. Tables were taken from chapters 1 through 3. Data tables did not included markup that identified row and column headers in a manner 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.</b>

## 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	<b>N/A</b>
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embedded links take you to the correct location in the book.	
Additional Information:	<b>The within book links are included in the live links analysis for HTML formats.</b>
B. Live hyperlinks take you to any website or webpages external to the book.	<b>Fail</b>
Additional Information:	<b>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.</b>
C. Live links take you to the correct webpage that is functioning properly.	<b>Pass</b>
Additional Information:	<b>50/50 links were analyzed and passed for functionality. The links were taken from chapters 1 through 3. 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.</b>
D. Live links are descriptive enough for the users to know where it should take them.	<b>Fail</b>
Additional Information:	<b>18/50 links were analyzed and passed for link description. The links were taken from chapters 1 through 3. There was adequate descriptions of the passing links that aided in determining where they would take you. Links failed because there was no adequate description of the link provided that was compatible with assistive technology. Simple names were used for failing links such as: figure, website, or video. 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>

### 9. Color and Contrast

A. All information within the material that is conveyed using color is also available in a	<b>Pass</b>
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<p>manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.</p>	
<p>Additional Information:</p>	<p><b>3/3 chapters were analyzed and passed for color redundancy. Chapters 1 through 3 were analyzed. The text content was color redundant in that it 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></p>
<p>B. Information is conveyed from the sub-categories for contrast.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>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.</b></p>
<p>C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters were analyzed and passed for adequate header color contrast. Chapters 1 through 3 were used for analysis. All level 1 headings were black text on a white background and level 2 headings were dark blue on white background. The content was analyzed using the color contrast analyzer tool. Google chrome was used to access the book online.</b></p>
<p>D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters were analyzed and passed for adequate text color contrast. Chapters 1 through 7 were used for analysis. All standard text samplings were of black text on a white background, and all text link samples were dark blue text on a white background. The content was analyzed using the color contrast analyzer tool. Google chrome was used to access the book online.</b></p>



<p>E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters with simple images were analyzed and passed color contrast. The images were taken from chapters 1 through 3. The content was analyzed using the color contrast analyzer tool. Google chrome was used to access the book online.</b></p>

### 10. Language

<p>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.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>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></p>
<p>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.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>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.</b></p>

### 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</p>	<p><b>Pass</b></p>
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browser, media player, or reader that offers this functionality).	
Additional Information:	<b>3/3 chapters were analyzed and passed. 11/11 non-decorative images passed. Chapters 1 through 3 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>
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	<b>N/A</b>
Additional Information:	<b>0/0 chapters were analyzed and passed. 0/0 decorative images passed. There were no decorative images located within the analyzed chapters. 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>
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).	<b>Pass</b>
Additional Information:	<b>3/3 chapters were analyzed and passed. 1/1 complex images passed. Chapters 1 through 3 were used for this analysis. 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>

## **12.Multimedia**

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	<b>N/A</b>
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Additional Information:	<b>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>
B. A transcript is provided with all audio content.	<b>N/A</b>
Additional Information:	<b>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>
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.	<b>N/A</b>
Additional Information:	<b>Not using additional assistive technology to open audio and or video content at this time.</b>

### **13.Flickering**

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	<b>Pass</b>
Additional Information:	<b>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.</b>

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

A. STEM figures have appropriate markup that indicates that the image is a figure.	<b>Pass</b>
Additional Information:	<b>10/10 figures were analyzed and passed. All STEM figures were taken from chapters 1 through 8. The figures are marked up in a manner that is compatible with assistive technology. The program used to analyze text content was NVDA which is an open</b>



	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.	<b>Pass</b>
Additional Information:	<b>10/10 graphs were analyzed and passed. The graphs are 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.</b>
C. STEM equations have appropriate markup that indicates that the image is an equation.	<b>Fail</b>
Additional Information:	<b>0/10 equations were analyzed and passed. STEM equations were found in chapters 5 through 8. The equations 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.</b>
D. STEM tables have appropriate markup that indicates the image is a table.	<b>Fail</b>
Additional Information:	<b>0/10 tables were analyzed and passed. The 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.</b>
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>Pass</b>
Additional Information:	<b>10/10 figures were analyzed and passed. All STEM figures were taken from chapters 1 through 8. The resource conveys both the notation (presentation) and meaning (semantics) of the STEM content. The program used to analyze text content was NVDA</b>



	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.	Pass
Additional Information:	<b>10/10 graphs were analyzed and passed. 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.</b>
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	Pass
Additional Information:	<b>10/10 equations were analyzed and passed. STEM equations were found in chapters 5 through 8. Although the reader could not identify or read the equation, the surrounding text 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.</b>
H. Assistive technology used can access the content from the STEM tables.	Pass
Additional Information:	<b>10/10 tables were analyzed and passed. 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.</b>

### *15. Interactive Elements*

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g.	N/A
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<p>annotations) allows keyboard-only operation both with and without assistive technology.</p>	
<p>Additional Information:</p>	<p><b>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></p>
<p>B. Each interactive element conveys information to assistive technology regarding the element’s name, type, and status (e.g. “Play, button, selected”).</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>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></p>
<p>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).</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>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></p>



## 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.	<b>Fail</b>
Additional Information:	<b>There was no URL to the Formal Accessibility Policy provided.</b>
B. The organization providing the online materials has an accessibility statement.	<b>Fail</b>
Additional Information:	<b>There was no URL to the Accessibility Statement.</b>
C. An Accessibility Evaluation Report is available from an external organization.	<b>Fail</b>
Additional Information:	<b>There was no URL Accessibility Evaluation Report.</b>

### 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.	<b>Pass</b>
Additional Information:	<b>3/3 Chapter passed, but the following notes need to be taken into consideration when improvements are being made to the book. Chapter 1, 6, 15 were checked, 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. The images are labeled and described in this book but all of this is skipped by the reader. There is also a chapter objectives section that states "by the end of this chapter, the student should be able to: " or " Note: Intoduction" and the bullet points are below, the reader skips Chapter Objectives, and only reads "By the end of this chapter...." but skips the</b>



	<p>bullet points below it and just starts reading the content/body paragraphs. But it reads the body text well. figures with exercises are also skipped by the reader.</p>
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### 3. Text Adjustment

<p>A. Text is compatible with assistive technology.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 Chapters passed. The text of this book can be changed in size (smaller and larger).</b></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><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 Chapters passed. The book is able to change format, into the nightmode, and the text and images are changed to a black flow but the images and text are still readable by the reader.</b></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><b>Fail</b></p>
<p>Additional Information:</p>	<p><b>0/30 pages passed. Chapter 1 and 5 and 10 and 13 and 15 and 16 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 150 stuff begins to be overlapping each other.</b></p>
<p>B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.</p>	<p><b>N/A</b></p>



Additional Information:	<b>N/A, the book is not numbered.</b>
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### 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.	<b>N/A</b>
Additional Information:	<b>No Assistive technology was used.</b>

### 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).	<b>N/A</b>
Additional Information:	<b>No Assistive technology was used.</b>
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).	<b>N/A</b>
Additional Information:	<b>No Assistive technology was used.</b>
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.	<b>N/A</b>
Additional Information:	<b>No Assistive technology was used.</b>



## 7. Tables

<p>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).</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>No Assistive technology was used.</b></p>

## 8. Hyperlinks

<p>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.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>N/A, all hyperlinks are considered live in this format.</b></p>
<p>B. Live hyperlinks take you to any website or webpages external to the book.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>0/10 links passed. Section 1.1 has a link to a scarcity content page/article. Section 1.3 there is a link to a video on Mahynard's influence. 2.1 has an article on opportunity cost, 5.1 and 5.3 article on elasticity and its not descriptive. 9.1 website yo bizarre patents and it is not descriptive 12.5 website on european commission is not descriptive enough. 14.1 has website on us poverty but doesnt load 17.2 website treasury bonds 18.1 website vitong groups 18.2 website on lobbying not descriptive. 18.3 website on runoof voting is not descriptive. 19.1 website on international trade is not descriptive. and website on trade related data is not descriptive and does not work. 19.3 website on assembly of iphone is not descriptive 19.4 website on benefits of trade is nto descriptive 20.1 website on global sugar trade is not descriptive, 20.2 website on article on fair trade coffee is not descriptive enough. 20.4 website on</b></p>



	presentation is not descriptive enough, 20.4 website on trade is not descriptive enough.
C. Live links take you to the correct webpage that is functioning properly.	Pass
Additional Information:	18/20 links pass. Section 1.1 has a link to a scarcity content page/article that works and opens a separate page. Section 1.3 there is a link to a video on Mahynard's influence that works and opens a separate page 2.1 has an article on opportunity cost that works, 5.1 and 5.3 article on elasticity and it's not descriptive. 9.1 website, bizarre patents and it is not descriptive. 12.5 website on european commission works. 14.1 has website on US poverty but doesn't load. 17.2 website treasury bonds works. 18.1 website voting groups works. 18.2 website on lobbying works. 18.3 website on run off voting is not descriptive but works. 19.1 website on international tradeworks and website on trade related data is not descriptive and does not work. 19.3 website on assembly of iphone works. 19.4 website on benefits of trade works. 20.1 website on global sugar trade works. 20.2 website on article on fair trade coffee works and is descriptive enough. 20.4 website on presentation is not descriptive enough but works. 20.4 website on trade is not descriptive enough but works.
D. Live links are descriptive enough for the users to know where it should take them.	Fail
Additional Information:	0/0 links pass. Section 1.1 has a link to a scarcity content page/article but the link itself is not descriptive because it is simply labeled website. Section 1.3 there is a link to a video on Mahynard's influence is not descriptive because it is simply labeled as video. 2.1 webpage to opportunity cost. 5.1 and 5.3 article on elasticity and it's not descriptive. 9.1 website bizarre patents and it is not descriptive. 12.5 website on european commission is not descriptive enough. 14.1 has website on US poverty but doesn't load. 17.2 website treasury



	<p>bonds 18.1, website voting groups 18.2, website on lobbying not descriptive. 18.3 website on runoff voting is not descriptive. 19.1 website on international trade is not descriptive, and website on trade related data is not descriptive and does not work. 19.3 website on assembly of iphone is not descriptive, 19.4 website on benefits of trade is not descriptive, 20.1 website on global sugar trade is not descriptive, 20.2 website on article on fair trade coffee is not descriptive enough. 20.4 website on presentation is not descriptive enough, 20.4 website on trade is not descriptive enough.</p>
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### 9. Color and Contrast

<p>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.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters passed. Chapter 1, 9, 17 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></p>
<p>B. Information is conveyed from the sub-categories for contrast.</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters passed. chapter 3,8,15 were checked and the section headings passed (both AA sub heading and text passed.</b></p>
<p>C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>3/3 chapters passed. Chapter 3,8,15 the section heading passed (both AA sub heading and text passed.</b></p>
<p>D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).</p>	<p><b>Pass</b></p>



Additional Information:	<b>3/3 chapters passed. Chapter 3,8,15 the section heading passed (both AA sub heading and text passed.</b>
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	<b>N/A</b>
Additional Information:	<b>N/A, All complex data.</b>

### 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.	<b>Pass</b>
Additional Information:	<b>English language was directly stated in the code.</b>
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.	<b>N/A</b>
Additional Information:	<b>No other language was specified in the code.</b>

### 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).	<b>N/A</b>
Additional Information:	<b>N/A, There are non-decorative images but they are skipped by reader which means they were not probably labeled in the code.</b>
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	<b>Fail</b>
Additional Information:	<b>0/3 chapters passed. There is a decorative image in Chapter 1 and 6 and 13 in their introduction section,</b>



	<p>although the reader can skip them, they are all labeled and explained with a little quick summary. This is not consistent with human information processing because various things are labeled with the same title which will confuse readers and cause frustration. Another problem is that when a reader sees a label and explanation they might feel like the information is important and wonder why it is being skipped over.</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><b>Fail</b></p>
<p>Additional Information:</p>	<p><b>0/3 chapters pass. Chapter 1, 9, 15 has complex figures, each section has at least one complex image that is labeled as figure 1, 2, 3 and explained in a couple of sentences but the reader skips them which is really bad! The images help the reader understand the concepts and information but they are not labeled correctly, specifically they start over as figure 1, 2, 3 in every section, this is confusing and hard to follow.</b></p>

## 12. Multimedia

<p>A. A synchronized text track (e.g. open or closed captions) is provided with all video content.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>No Multimedia found in textbook.</b></p>
<p>B. A transcript is provided with all audio content.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>No Multimedia found in textbook.</b></p>
<p>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.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>No Multimedia found in textbook.</b></p>



### 13. Flickering

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

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

A. STEM figures have appropriate markup that indicates that the image is a figure.	<b>N/A</b>
Additional Information:	<b>N/A, No assistive technology was used.</b>
B. STEM graphs have appropriate markup that indicates that the image is a graph.	<b>N/A</b>
Additional Information:	<b>N/A, No assistive technology was used.</b>
C. STEM equations have appropriate markup that indicates that the image is an equation.	<b>NA</b>
Additional Information:	<b>N/A, No assistive technology was used.</b>
D. STEM tables have appropriate markup that indicates the image is a table.	<b>N/A</b>
Additional Information:	<b>N/A, No assistive technology was used.</b>
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>N/A</b>
Additional Information:	<b>N/A, No STEM content.</b>
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>Fail</b>
Additional Information:	<b>0/10 graphs pass. 5.1 4 5.3 5 graphs that are not labeled and titled.</b>
G. STEM equations have appropriate notation markup that conveys both the notation	<b>N/A</b>



(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	<b>N/A, No STEM content.</b>
H. Assistive technology used can access the content from the STEM tables.	<b>Fail</b>
Additional Information:	<b>0/10 tables pass. Sections 3.1 3 5.1 has one. 5.3 2 9.1 has one. 13.1 has two 14.1 , none of the tables are labeled and titled.</b>

### ***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.	<b>Pass</b>
Additional Information:	<b>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>
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	<b>N/A</b>
Additional Information:	<b>No interactive elements.</b>
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).	<b>N/A</b>
Additional Information:	<b>No interactive elements.</b>



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