

Accessibility Notes

Web Content Accessibility Guidelines 2.1, level AA.

- Visual materials that present core concepts - all students are able to see and understand
- Multimedia (audio, video) materials that present core concepts -- all students are able to be hear, see, or access.
- Documents that present core concepts are in a format that all students are able to access

Syntax:

- HTML and CSS should validate.
- Include HTML5 doctype and language attribute
- Elements have complete start and end tags, no missing or extra angle brackets
- Elements are nested according to their specifications
- Elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.
- All tags and attributes in lower case (for consistency and ease of proofreading)
- Attribute values enclosed within quotation marks

Layout Notes: (<https://www.w3.org/TR/WCAG20-TECHS/C28.html>)

- Liquid Layouts recommended (<https://www.w3.org/TR/WCAG20-TECHS/G146.html>)
- Adjustable to 200%
- Containers/content should adjust with browser size, use ems or percent
- Avoid horizontal scrolling
- Page structure reference: <https://www.w3.org/WAI/tutorials/page-structure/content/>

Titles:

G88: Providing descriptive titles for Web pages using one of the following techniques:

- H25: Providing a title using the title element
- PDF18: Specifying the document title using the Title entry in the document information dictionary of a PDF document

Headings:

- Use heading tags in order and sizing relative to main body font:
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- Logical flow using chapters, headings, and subheadings to organize content.
- Headings help to identify the hierarchical structure of a document (e.g., sections, sub-sections).
- Use descriptive headings with distinctive text at the beginning (see examples: <https://www.w3.org/TR/WCAG20-TECHS/G130.html>)
- Don't use heading tags for non-heading text.

Images (functional):

- Use descriptive “alt” as well as text content surrounding image if image presents core concepts.
- Use concise but descriptive text, do not include “photo of” or “image of”.
- Up to a max of about 100 characters including spaces and punctuation.

Images (decorative):

- Use empty alt=""
- Valid HTML must include an “alt” attribute with all images and empty “alt” attributes must include the opening and closing quotes.

Colour (use of):

- Do not use colour *only* to convey information. Example would be a bar chart with colours representing each bar where colour is the sole method of communicating the data. People with color contrast issues may have difficulty.
- Colour contrast should meet recommended levels for both brightness and colour difference.

Situation A: If the color of particular words, backgrounds, or other content is used to indicate information:

- [G14: Ensuring that information conveyed by color differences is also available in text](#)
- [G205: Including a text cue for colored form control labels](#)
- [G182: Ensuring that additional visual cues are available when text color differences are used to convey information](#)
- [G183: Using a contrast ratio of 3:1 with surrounding text and providing additional visual cues on focus for links or controls where color alone is used to identify them](#)

Situation B: If color is used within an image to convey information:

- [G111: Using color and pattern](#)
- [G14: Ensuring that information conveyed by color differences is also available in text](#)

Colour (contrast): includes: hue, lightness and saturation of text, images, and background

- Text- or image-based content on a coloured or textured background. Confirm that there is sufficient contrast between your foreground content and the chosen background colour or texture.
- Links in content -- confirm that the colour of the web links is distinct from both the background colour
- Used colour to convey concepts or information -- confirm that colour alone is not being used to convey this information.
- G183: Using a **contrast ratio of 4.5:1 (Level AA)** with surrounding text and providing additional visual cues on focus for links or controls where color alone is used to identify them

Tools to evaluate colour-contrast ratios:

- [WebAIM's Color Contrast Checker](#): This web-based tool allows you to select or enter colour values to test and provides you with a “pass” or “fail” on your contrast ratio.
- [Snook Colour Contrast Checker](#):
- [ACART's Contrast Checker](#): Check colour contrast and view your selections in grey scale. This tool also allows you to keep a history of the colour combinations you have tested.
- [Giacomo Mazzocato's Accessibility Color Wheel](#): This web-based tool includes several options for testing your colour selections, including simulations of three types of colour blindness. You can also opt to test what your contrast ratio is when the foreground and background colour selections are inverted.

Links: point to information that is available at a different location.

- Create descriptive link text (not “click here” or “read more”).
- When linking to non-html documents such as PDF or Word docs, include that in the link path such as **Link Text [PDF]** and open in a new or new named window/tab.
- Ensure sufficient colour contrast and ideally, include the underscore.

Tables (data):

- A simple table includes a maximum of one header column and/or one header row.
- A complex table includes more than one header column and/or header row, and may include merged or split cells.
- Simple tables are recommended and ideally, used only to present data and not for layout.

Multimedia: Multimedia includes: videos, audio, animations, slideshows. File types: .mp3, .mp4, ppt., etc.

- Audio narration or instruction: include textual transcript
- Audio synchronized with video: provide text captions
- Multimedia has contextual visuals – include audio descriptions

Audio: If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level.

- [G60: Playing a sound that turns off automatically within three seconds](#)
- [G170: Providing a control near the beginning of the Web page that turns off sounds that play automatically](#)
- [G171: Playing sounds only on user request](#)

Hovers and Popups: test on multiple devices/platforms.

Font Sizes:

- **Body text:** 12 point for body text: For most documents, body text should be around 12 points. Small fonts may be illegible for some audiences. (assuming 16px browser default and a standard font-family, equivalents are **1em** or 16px or **100%**)

- **Footnotes or Endnotes:** 9 point minimum for footnotes: If a document contains footnotes or endnotes (such as footer text). (assuming 16px browser default and standard font-family, equivalents are **.75em** or 12px or **75%**)
- **Zoom:** 200% zoom: The Web Content Accessibility Guidelines (WCAG 2.0) recommend ensuring that text can be zoomed to 200%. As well, we recommend using liquid layouts² that can accommodate 200% text.
- **Font Sizing from WCAG 2.1 – Level AA**
 - Line height (line spacing) to at least 1.5 times the font size;
 - Spacing following paragraphs to at least 2 times the font size;
 - Letter spacing (tracking) to at least 0.12 times the font size;
 - Word spacing to at least 0.16 times the font size.

Text Case:

Upper vs Lower Case Text

Mixed opinions about case. Okay to leave upper case headings as not confirmed if an accessibility issue or not. Just avoid large sections of text in upper case as that would be more difficult to read even without any disabilities.

Animations: Moving, blinking, scrolling (potential seizure issues):

- For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential.
- Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.

Accordions:

- Test existing code on desktop and mobile and multiple browsers and platforms – change accordion code if does not function well across devices.
- Accordions are a great option for mobile devices, presents content compactly and intuitive to click or tap
- Keep accordion content short however, to avoid excessive scrolling down

Math Formulas (if presented as images): use “alt” to describe, could also use audio.