

Web Accessibility and OER

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A Brief Overview of Web Accessibility

- 4 principles for accessible web content - [POUR](#):
 - Perceivable
 - All information can be perceived by users using only one of their senses
 - Operable
 - Usable by all users, ex. those who use voice commands or keyboard navigation rather than a mouse
 - Understandable
 - Site navigation and content is clear and predictable
 - Robust
 - Site content is structured so as to be compatible with current and future assistive technologies
- For our purposes, perceivability is the most relevant principle

Web Content Accessibility Guidelines

- [Web Content Accessibility Guidelines \(WCAG\)](#) are widely accepted standards for web accessibility
 - There have been several versions (most recently WCAG 2.2)
 - Multiple levels of compliance
 - Level A: bare minimum compliance
 - Level AA: mid-range compliance
 - Level AAA: top level compliance
- Title II of the Americans with Disabilities Act requires public institutions to conform with [WCAG 2.1 AA](#)
- Aside from the legal requirement, making OERs accessible is a crucial part of making them truly open

Accessibility on Academic Commons

- Teaching template comes with a built-in accessibility checker that will flag many errors ([Editoria11y](#))
- If you're not using the Teaching template, you can activate the Editoria11y plugin manually (just go to “Plugins” on the Dashboard)
- The plugin works best with the Block editor, so even if you prefer working with the Classic editor, it's worth switching over to the Block editor or looking at the preview of your site every now and then to check for accessibility issues
 - Being mindful of accessibility throughout the process of creating your site will save you the work of having to go back and fix issues at the end

Common Accessibility Issues

- [Non-text content \(images, videos, audio\)](#)
 - Text alternatives must be provided (ex. subtitles, closed captions, transcripts, image captions, alt text)
- [Tables](#)
 - Columns must have headings
- [Link text](#)
 - Link text must be descriptive
- [Page structure](#)
 - Use headings and lists to make the structure of your content more screen-reader friendly
- [Color contrast](#)
 - Ensure sufficient contrast between text and background
- [PDFs](#)
 - Provide alternative formats, and make your PDFs as accessible as possible

Text Alternatives for Images

- Alt text should describe the purpose of an image, not what it looks like (especially if the image is a link)
- Don't include the phrase "Image of..." or "Picture of..." in your alt text
 - Screen readers will announce to users when they're interacting with an image
 - More specific terms (painting, photograph, etc.) should be used when relevant
- Keep concise
 - If an image requires lengthy description, consider providing that in a caption rather than in the alt text
- Not all images need alt text
 - If the purpose of an image is already conveyed in a caption or another text format, or if the image is purely decorative, the alt text should be null (alt="" in HTML; leave the description box blank in Academic Commons)
- Avoid using images of text if possible
 - Not only are they inaccessible to screen readers, they also don't allow users to adjust the size or color of the text to make it easier to read

Writing Alt Text



Unhelpful* alt text: "DOAJ in orange text and Directory of Open Access Journals in black text against a white background"

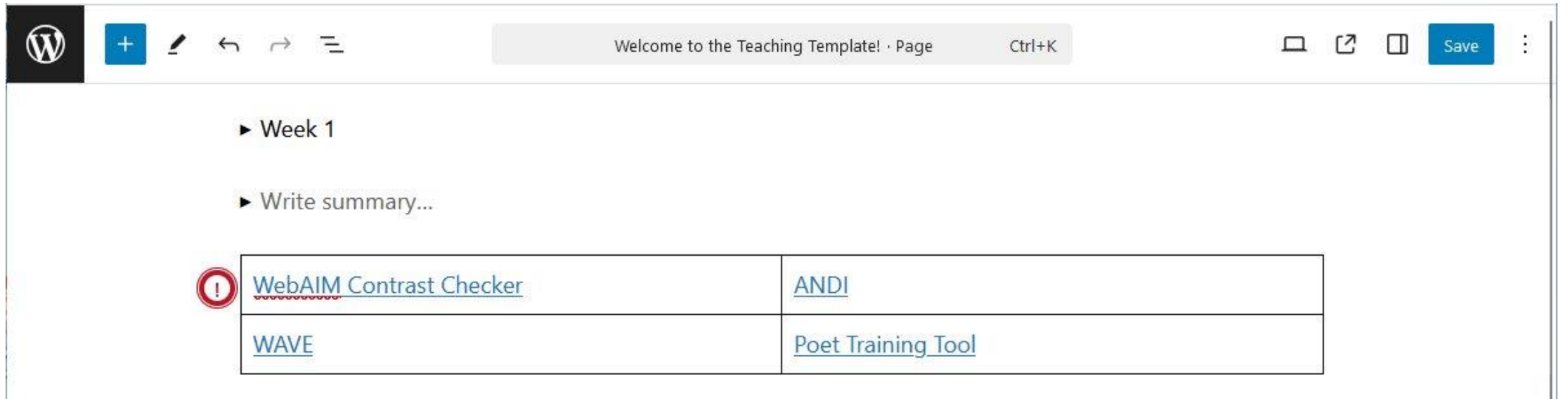
Helpful alt text: "Directory of Open Access Journals"

*Unless you're including this image as an example of the use of the color orange in open access logos, or something along those lines. Context is a big part of creating appropriate alt text!

Tables

- Only use tables for tabular data – don't use them for purely aesthetic reasons
- Table columns must have headers that describe the data in that column
 - If you're having trouble coming up with header labels for the columns in your table, that may be a sign that the information is not really tabular and should be presented in a different way
 - Figuring out how to add table headers in Academic Commons is a little tricky. By default, when you create a table, it will **not** have headers.
- Avoid using images of tables
 - For the same reasons why it's best to avoid using images of text – plus, think about how difficult it would be to write alt text describing a table

Non-Tabular Data



The screenshot shows a WordPress editor interface. At the top, there's a header bar with the WordPress logo, a plus icon, a pencil icon, and navigation arrows. The page title is "Welcome to the Teaching Template! · Page" and the keyboard shortcut "Ctrl+K" is displayed. On the right, there are icons for mobile, link, and a "Save" button. The main content area has a heading "► Week 1" followed by "► Write summary...". Below this is a table with two columns and two rows. To the left of the table is a red circular icon with a white exclamation mark, indicating a warning or error. The table contains the following links:

WebAIM Contrast Checker	ANDI
WAVE	Poet Training Tool

A table being used for non-tabular data (a list of accessibility-related tools). There is no reason for this information to be presented across multiple columns in a table.

Tabular Data

Accessibility Tool	Description
<u>WebAIM</u> Contrast Checker	Checks contrast ratio between text and background colors
WAVE	Checks public websites for common accessibility issues
ANDI	Checks public and private websites for common accessibility tools
Poet Training Tool	Provides practice exercises for writing alt text for images

This is an example of tabular data. One column lists the names of accessibility-related tools, the other lists descriptions corresponding to each tool.

Adding Table Headers in WP/AC



The screenshot shows the WP/AC interface. At the top, there's a header bar with a "Welcome to the Teaching Template! · Page" label and a "Ctrl+K" shortcut. To the right, there are icons for a document, a share icon, a "Settings" button (highlighted with a red square), and a "Save" button. Below the header, there's a "Week 1" section. Underneath, there's a table with two columns. The first column contains the text "WebAIM Contrast Checker" and the second column contains "ANDI". To the right of the table, there's a "Settings" panel. In this panel, the "Fixed width table cells" toggle is turned on. The "Header section" toggle is highlighted with a red rectangle and is currently turned off. The "Footer section" toggle is also turned off.

WebAIM Contrast Checker	ANDI
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Settings

- ☒ Fixed width table cells
- ☐ Header section
- ☐ Footer section

Select the table block and click the little square "Settings" button next to the "Save" button in the upper right hand corner of the page.

Switch on the "Header section."
This will add a header row to your table.

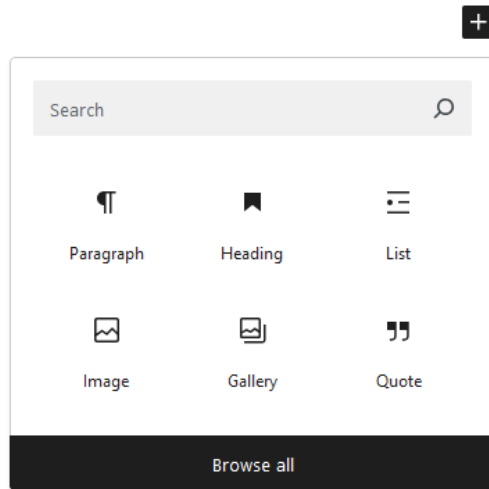
Link Text

- Avoid generic link text ("click here," "read more," "this link")
- The purpose of the link should be clear from the link text
 - Screen reader users often navigate pages by [tabbing from link to link](#), skipping the text around them, so link text should make some kind of sense in isolation
- As with alt text, keep it concise (remember, someone using a screen reader will have to listen to this being read out loud!)
 - Use hypertext, rather than spelling out entire URLs (ex. [Accessibility Guide for Authors](#), rather than <https://sigchi.org/resources/guides-for-authors/accessibility/>)

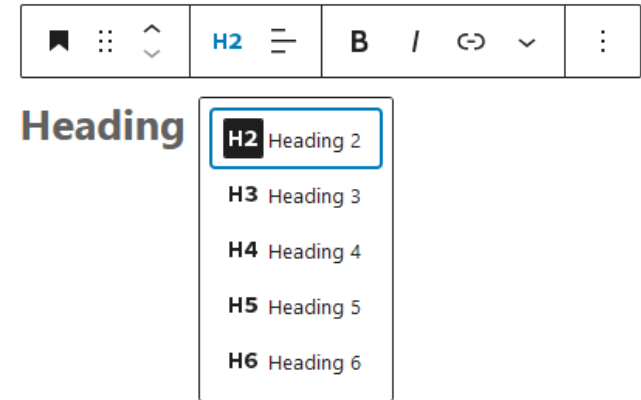
Structure

- Using [headings](#) makes the structure of your site perceivable by screen readers
 - It allows content to be broken up into meaningful sections, rather than being presented as a long wall of text
- Screen readers rely on the HTML on the backend of web content to identify page structures
 - Visual cues like a large font size or bold text don't indicate to a screen reader that a piece of text is a heading
 - Select the "Heading" block (and choose the appropriate level) to effectively communicate the structure of your page to assistive technologies
- Headings can be nested inside each other (subheadings), but don't skip levels
 - Ex. If you're adding a subheading nested under H2, it has to be H3 (not H4, H5, etc.)
- Feel free to adjust the default styling of the different heading types (ex. increase/decrease font size)
- Use numbered lists and bullet points where appropriate
 - The block editor in Wordpress/AC will generally automatically format lists with the appropriate HTML markup on the backend, but to save time you can select the "List" block when adding lists to your site

Headings in WP/AC



You don't need to manually code the HTML for your site to give it a meaningful structure. The block editor in Wordpress/Academic Commons will do it for you, if you choose the appropriate type of content block for headings and lists.

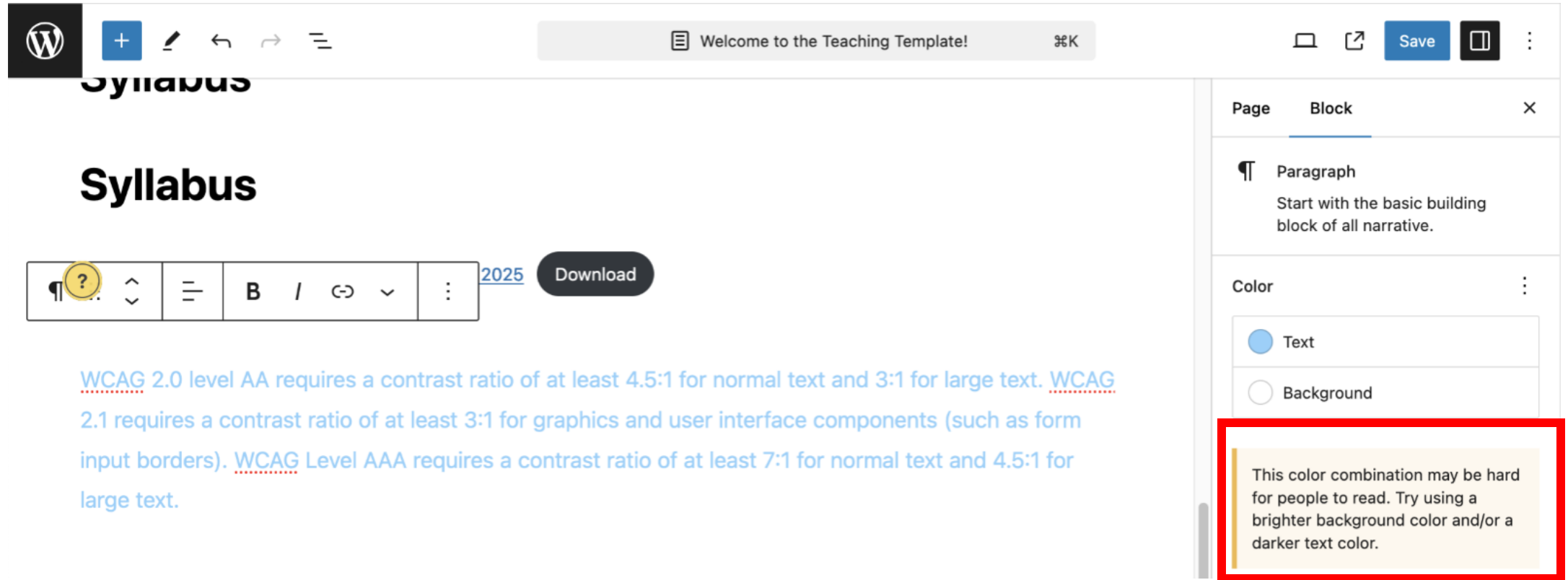


Heading levels within a page start from H2/Heading 2 because the page title is automatically formatted as H1/Heading 1. A subheading under H2 should be H3, under H3 should be H4, etc.

Contrast

- Pay extra attention to contrast – the Editoria11y plugin doesn't flag all contrast errors
- External accessibility checkers (ex. [WAVE](#) or [ANDI](#)) are useful for this
 - The [WebAIM Contrast Checker](#) also allows you to check whether the ratio between text and background color is acceptable (in our case, meets WCAG 2.1 AA standards)
 - You will need the [hex code](#) for each color you're checking – many platforms (including Academic Commons) display hex codes for font/background colors, which you can copy and paste into the checker
 - When in doubt, there are many free eyedropper or hex code converter tools out there
- If you use a header image on your Commons site, make sure there is sufficient contrast between the background and the site title text
 - Editoria11y and ANDI don't check contrast against background images; WAVE does

Text and Background Contrast in WP/AC

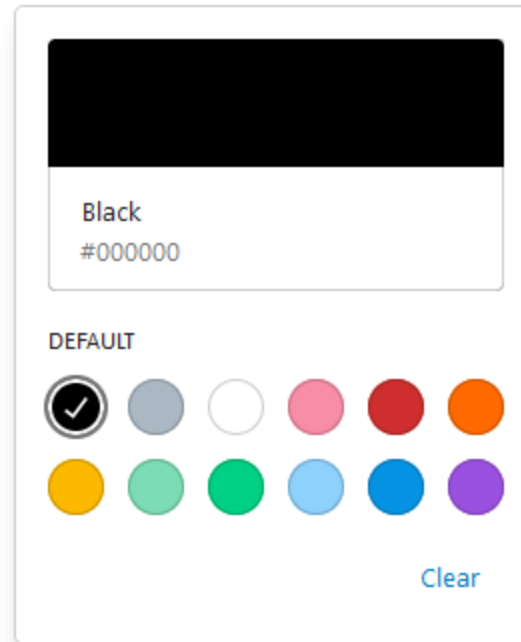


The screenshot shows the WordPress Academic Commons editor interface. At the top, there's a header with the WordPress logo, a plus icon, and a toolbar. The main content area displays the title "Syllabus" and a paragraph of text. A toolbar below the title includes a question mark icon, a list icon, a bold icon, a link icon, and a download button. The paragraph text is: [WCAG 2.0 level AA requires a contrast ratio of at least 4.5:1 for normal text and 3:1 for large text. WCAG 2.1 requires a contrast ratio of at least 3:1 for graphics and user interface components \(such as form input borders\). WCAG Level AAA requires a contrast ratio of at least 7:1 for normal text and 4.5:1 for large text.](#)

On the right side, the "Block" settings panel is open. It shows the "Paragraph" block type and a "Color" section with "Text" and "Background" options. A red-bordered box highlights a warning message: "This color combination may be hard for people to read. Try using a brighter background color and/or a darker text color."

When changing font and background colors in Academic Commons, the Editoria11y warning appears in the block settings. When you close the settings, the warning will disappear, so make sure to check first!

Hex Codes in WP/AC



Hex codes are 6-digit codes that identify colors in web pages. When you're changing font or background colors in WordPress/AC, the hex code is displayed right below the name of the color in the preview window (in this case, #000000).

PDFs

- PDFs are an accessibility nightmare, so if you can avoid them, please do
 - Even with OCR, PDFs are very unfriendly to screen readers and, like images of text, don't allow users to adjust the size/color of the text
- If alternative formats exist, make them available
 - Ex. Consider sharing your syllabus as a Word document, instead of or as well as a PDF
 - If you manage to find an open resource that is also available in multiple formats, link to the landing page (ex. [General Chemistry](#)) rather than or as well as uploading the PDF (in this case, the PDF is also over 2,000 pages long and is too big to host on the Commons!)
- The best way to create accessible PDFs is to make your document accessible **before** saving it as a PDF
 - Tips for [creating accessible Word documents](#)
 - [Making Accessible Word Documents for PDF Export](#)
 - This also applies to Manifold – making your documents accessible (using headings, adding alt text, etc.) before ingesting will make the process much easier!

Further Resources

- [WAVE \(Web Accessibility Evaluation\)](#)
 - Accessibility checker that works for **public sites only**
- [ANDI](#)
 - Accessibility checker for **public and private** sites
 - Does not check the contrast between text and background images
- [Poet Training Tool](#)
 - Practice writing alt text in different contexts
- [An alt Decision Tree](#)
 - A tool to decide how (or if) you should write alt text for images
- [Master the Art of Accessible Link Text](#)
- [Accessibility on the Commons](#)
- [Accessibility on Manifold](#)