

Getting Started with Digital Accessibility

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The **Columbia University School of Professional Studies** (CUSPS) recognizes that accessibility is essential to ensuring equity and inclusion. While we have a strong commitment to accessibility for all, it is also evident that more can always be accomplished to promote and practice a culture of inclusion across the school. As Columbia University President Bollinger reminds us in his [Diversity Mission Statement](#), “Building a diverse university community is not the work of a moment. It requires sustained commitment, concerted effort, and the attention of us all.”

Digital accessibility touches nearly every aspect of campus life and work, from applications to websites, to courses; and to myriad tools used in curricular and co-curricular programs, services, and activities. This guide is a resource intended for faculty and staff who are not very familiar with accessibility and inclusion standards, but who are interested in taking some first steps towards making course content more accessible and readable by all users and assistive devices.

When you are ready to take deeper dives into accessibility and inclusion practices, take a look at the **Digital Accessibility Toolkit**. You will find more detailed and comprehensive information to guide your next steps in creating, curating, or publishing accessible content for a course site, website, or shared document collection.

*This primer is part of the [Digital Accessibility Toolkit](#), a more comprehensive resource developed for CUSPS faculty and staff by the **Accessibility and Inclusion Working Group**.*

We would like to thank our colleagues at [Stanford University](#), [Penn State](#), and the [University of Washington](#) for allowing us to quote some of their documentation.

Links to this document and to a PDF version can also be found on the [Accessibility and Inclusion](#) page on the Academic Affairs website.

To contact the Accessibility and Inclusion Working Group:
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Introduction

Adopting a Mindset and Practice of Diversity and Inclusion

We often hear the words “diversity” and “inclusion,” but what do they mean, and how can we put them into practice in our classrooms? We believe that diversity and inclusion describe a mindset or attitude that respects the differences among students: Differences in who students are, how they learn, and what their goals are. But practicing inclusion means more than simply being aware of these differences; it means making space for difference to flourish and bear fruit. You can do this by removing barriers and giving students more options for engaging with course materials and demonstrating learning.



Inclusion and Digital Accessibility

As the number of students in higher education with identified (and unidentified) disabilities has grown, more attention is being paid to inclusion and accessibility as frameworks for designing learning environments that support the inclusion and success of all learners.

One of the first ways to practice inclusion in your courses is to ensure that the content you create or require for your courses is accessible. What makes content accessible?

Improving the accessibility of digital content is first of all about reducing basic barriers to comprehension, such as providing alternative text for images, so that those who cannot see the images can grasp their meaning. Similarly, making captions or transcript text available for a video file can make it accessible to someone who cannot hear audio.

Ultimately, digital accessibility is about providing more than one option for accessing and interacting with content—for everyone, regardless of ability. Responsibility for digital accessibility is neither “mine” nor “yours”; it’s ours.

What is
**DIGITAL
ACCESSIBILITY?**

Digital Accessibility refers to how well any any type of electronic or online media can be used by people with visual, hearing, motor or learning disabilities, as well as by the aged.



Roughly
1 out of 5
Americans has some
kind of disability¹

that's **68 million**
people!

What types of disabilities are included in this number?*



*includes workers

Who else needs digital accessibility? **



**percentage of U.S. population



(this document is fully accessible)

Tips for Creating Accessible Online Courses

Technology is increasingly used in delivering academic programs, courses and resources. Some programs and courses are offered completely online; others combine on-site and online components into a hybrid format.

It is important to ensure that all course content is accessible to and usable by all students. This includes documents, videos, and the pages of your course sites. These digital resources often need to be remediated for accessibility as an accommodation to one or more students with disabilities. This presents tremendous challenges for faculty and staff, and creates a burden for students as they fall behind while waiting for accessible resources. Therefore, it is always best to proactively ensure all digital resources are accessible from the onset. This enables all students, with and without disabilities, to participate fully in the course. Accessibility solutions often benefit all students.

REAL CONNECTIONS ([link to video](#))

In this video, educators and students share guidelines for designing web-based distance learning courses to fully include all students, including those identifying as disabled. Also available with audio description: <https://youtu.be/zhw4UmTBIAk>



(Courtesy of the University of Washington)

Curious about the students most affected by digital accessibility (or lack thereof)?

Penn State World Campus has developed a valuable resource to communicate some of the *personas* associated with students with disabilities: <https://sites.psu.edu/personas/>

Recommended Accessibility Statement for Syllabi

The [Columbia University Office of Disability Services](#) recommends all faculty include the following statement in their course syllabi unless they are using a Canvas syllabus template that already contains this or similar language:

"Columbia University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://health.columbia.edu/content/general-guidelines-disability-documentation>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as

possible. To begin this process, please complete the Registration form on the ODS web site at: https://health.columbia.edu/sites/default/files/content/Docs/disability_registration.pdf."

Creating Accessible Documents

If you choose to distribute documents in another format such as Adobe PDF, Microsoft Word or Microsoft PowerPoint, know that these formats support accessibility, but documents are not accessible by default. Authors must take care to follow the guidelines for creating accessible documents. Many of the issues are the same as for web pages (e.g., use appropriate headings, add alt text to images) but the techniques vary across document authoring tools. For additional information see the [How to Create Accessible Documents](#) section of the *Digital Accessibility Toolkit*.

Some digital documents are more accessible than others. The most accessible document format is HTML, so the best choice for distributing content is a web page, created using the rich text editor in a content management system such as WordPress or Drupal or learning management system such as Canvas. Care must be taken to ensure web pages are accessible. For example, headings must be tagged as headings at appropriate levels to form an outline of the document content, and images must be briefly described for non-visual users by entering "alt text" in the relevant form field when adding the image. For additional information see [How to Create Accessible Course Sites and Web Pages](#) section of the *Digital Accessibility Toolkit*.

Creating Accessible Videos

Video offers an excellent medium for teaching, particularly if used to complement other teaching methods such as text and activities. However, video can present accessibility challenges to some students. Fortunately, there are standard, widely supported solutions to all the problems. For example, students who are deaf or hard of hearing need captions in order to access the audio content; and students who have blindness or low vision need to have all visual content described verbally. If this isn't possible within the main program audio, the video can be supplemented with a separate narration track that describes the visual content using a technique called audio description. For additional information about these and other video accessibility issues, see [How to Ensure Multimedia is Inclusive and Accessible](#) section of the *Digital Accessibility Toolkit*.

Pedagogical Considerations

Making courses accessible and inclusive involves more than technical issues; there are pedagogical considerations as well. With respect to instructional methods:

1. Assume students have a wide range of technology skills and provide options for gaining the technology skills needed for course participation.
2. Present content in multiple ways (e.g., in a combination of text, video, audio, and/or image format).
3. Address a wide range of language skills as you write content (e.g., spell acronyms, define terms, avoid or define jargon).

4. Make instructions and expectations clear for activities, projects, and assigned readings.
5. Make examples and assignments relevant to learners with a wide variety of interests and backgrounds.
6. Offer outlines and other scaffolding tools to help students learn.
7. Provide adequate opportunities for practice.
8. Allow adequate time for activities, projects, and tests (e.g., give details of project assignments in the syllabus so that students can start working on them early).
9. Provide feedback on project parts and offer corrective opportunities.
10. Provide options for communicating and collaborating that are accessible to individuals with a variety of disabilities.
11. Provide options for demonstrating learning (e.g., different types of test items, portfolios, presentations, discussions).

Additional Resources

- [Accessibility in Teaching and Learning](#) (from CU's Center for Teaching and Learning)
- [Inclusive Teaching Guide](#) (from CU's Center for Teaching and Learning)
- [Guide to Inclusive Teaching at Columbia](#) - PDF download (from CU's Center for Teaching and Learning)
- [20 Tips for Teaching an Accessible Online Course](#) (University of Washington)
- [20 Tips for Making Online Learning Courses Accessible \(Video\)](#) (University of Washington)
- [The New Pedagogy: 6 Web Design Principles You Need to Know to Improve Your Online Course Outcomes](#) (Learning Technologies)
- [A Taxonomy of Inclusive Design: On Disclosure, Accessibility, and Inclusion](#) (Educause)

Quick Wins for Digital Accessibility

Making all of the content you have created for your courses accessible right now is not practical. Instead, we recommend focusing your attention on ensuring all new and revised content is accessible going forward. With this strategy, more and more of your content will be accessible over time. It's very hard to make content accessible retroactively, and best not to wait until you have students in your course that identify as requiring accommodations.

To get started, please consider adopting the following **Quick Wins**. These can be applied to any kind of document you create, whether an MS Word doc, Google Doc, Google presentation, PDF, etc. They can also be applied to web pages, or course sites. Applying these **Quick Wins** consistently will go a long way towards helping you develop and maintain an accessible and inclusive mindset, and will benefit students and colleagues alike.

Detailed and comprehensive information regarding each of the following **Quick Wins** is provided in the **Deeper Dives** sections of the [Digital Accessibility Toolkit](#).



QUICK WINS for DIGITAL ACCESSIBILITY

The core principles of digital accessibility are the same for all document types, but the individual steps vary depending on which tool you're using and what the final format of the document will be. To learn how to put the following **Quick Wins** into practice using specific authoring tools, see the article [How to Create Accessible Documents](#).

Avoid using PDFs that are scanned images of text

PDFs consisting of scanned images of text are inherently inaccessible because the content of the document is a graphic representing the letters on the page, not searchable text. This makes the text impossible for screen readers to decipher. Run such PDFs through an Optical Character Recognition scanner (OCR) if possible. Contact the [CUSPS Helpdesk](#) for additional support.

Include navigation landmarks in your document

Landmarks like **headers, footers, page numbers, and page counts** help your readers find where they are in your document. To maximize accessibility, especially in long documents, include one or more of these landmarks (available in the Insert menu).

Use headings to organize your document

Virtually every document authoring format includes support for headings and subheadings. Headings and subheadings should be identified as such using the built-in heading features of the authoring tool. Headings should form an outline of the page content (Heading 1 for the main heading, Heading 2 for the first level of sub-headings, Heading 3 for the next level of sub-headings, etc.). This enables screen reader users to understand how the page is organized, and to quickly navigate to content of interest.

Use informative link text

Screen readers can scan for links, so informative link text is helpful. It's best to use the title of the page as the linked text. For example, if you're linking to your profile page, the link text should say "my profile," not "click here" or the full URL.

Use comments and suggestions

Use the **commenting** and **suggesting** features instead of writing notes within the text of your document or presentation. Screen reader users can jump to comments using keyboard shortcuts rather than hunting through your file. The file owner can also receive email notifications or review comment threads.

Use numbered and bulleted lists

Any content that needs to be organized as a list should be created using the list controls that are provided in document authoring software. When lists are explicitly created as lists, this helps screen readers to understand how the content is organized. When screen reader users enter a list, their screen reader informs them that they're on a list and may also inform them of how many items are in the list, which can be very helpful information when deciding whether to continue reading.

Use text to support formatting

It's best not to rely on visual formatting alone to communicate meaning. Screen readers might not announce formatting changes, such as boldface or highlighting. For example, to mark an important section of text, add the word "Important."

Check text size and alignment

Except for captions and images of text, text can be resized without assistive technology up to 200% without loss of content or functionality. For traditional computer monitors, a font size of 12-14 points/pixels is generally recommended for body text (depending on the audience).

To make your document or presentation easy to read, use large, left-aligned text when possible. Justified text is more difficult to read because of extra space between the words. To change the alignment, press Ctrl + Shift + L (Windows or Chrome OS) or ⌘ + Shift + L (Mac).

Share a presentation in HTML view

Google Slides HTML view displays your whole presentation in a single, scrollable HTML page, instead of displaying the presentation one slide at a time. This is a helpful feature if your audience includes people who use screen readers. To access a presentation in HTML view, use the keyboard shortcut Ctrl + Alt + Shift + p (Windows or Chrome OS) or ⌘ + Option + Shift + p (Mac).

Avoid using images to create text content

Whenever possible, use text, not images, to create text content. Images of text lose fidelity when enlarged, which can make the text difficult to read, especially for users with visual impairments.

Avoid reliance on visual characteristics

Some users are unable to perceive color differences, or may not perceive color the same way you do. Therefore it is important to avoid using color alone to communicate information.

Make sure every image has alt text

If the image (graphic, photo, chart) contains words that are important information to the viewer, include them in alt text. If the image is decorative/ contains no relevant information, leave it null. For more information, see the article [How to Ensure Your Images Are Accessible](#).

Check for high contrast

High contrast, the brightness difference between foreground and background colors, makes text easier to read and comprehend. [Web Content Accessibility Guidelines \(WCAG\) 2.1](#) recommend a minimum contrast ratio of text to background color is 7:1 for text and 4.5:1 for large text. For example, avoid light gray text on a white background.

For non-text elements, i.e., [user interface components](#) and graphical objects, [WCAG 2.1 criterion 1.4.11](#) requires a ratio of at least 3:1 between adjacent colors. To check contrast, use the [WebAIM contrast checker](#). For more information, see the article [Contrast and Color Accessibility](#).



Quick Wins for creating and/or editing Canvas course sites

Canvas provides [General Accessibility Design Guidelines](#), covering the things you can do to make your course content accessible for all students. This includes students with special physical, sensory, or cognitive requirements, as well as accounting for the different ways that

students learn. Course site templates developed by SPS Online Curriculum & Instruction are [WCAG 2.1 compliant](#), and are used by instructional designers when building out course sites.

Please be aware that the following types of changes made to the SPS templates could make your course site inaccessible:

- Changing the structure or navigation landmarks of an HTML page template
- Changing the CSS of a page template
- Uploading files (documents, images, videos) to the course site that are not accessible

Avoid uploading scanned PDFs

PDFs are not accessible if you cannot highlight the text. PDFs should be tagged and formatted so they can be read by screen readers. Contact the [CUSPS Helpdesk](#) for additional support.

Caption your videos

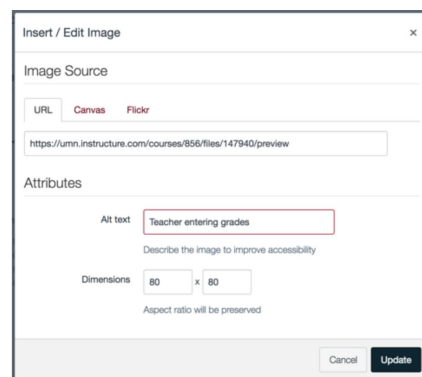
All recorded lectures or videos should have captions. If you create your videos with Panopto, you can [import automatic captions](#) and edit these yourself. Contact the [CUSPS Helpdesk](#) for captioning support.

Ensure All Embedded Multimedia is Accessible

- If a video is embedded in a PowerPoint or Google Slides presentation, ensure that it is captioned, and that the player controls are accessible.
- If an audio-only file is embedded, ensure a transcript is included.
- For more information, see the article [How to Ensure Multimedia is Inclusive and Accessible](#) (Links to an external site).

Add alternative tags (alt-text) to embedded images

Screen readers cannot read images, but they can read alternative text provided about that image. Here are [instructions on how to add alternative text to your images in Canvas](#). (Links to an external site.) For more information, see the article [How to Ensure Your Images Are Accessible](#). (Links to an external site.)



Avoid using tables to organize information

Tables are confusing for screen readers and don't always resize correctly for various screen sizes. Instead, use bulleted lists.

If you have to use tables, be sure to include row or column headers:

- In MS Word, this is done automatically if you use the Table Designer
- Google Docs does not currently support this, so only simple tables should be used

Attach embedded links to descriptions

When embedding a link, it is not good practice to simply paste in the URL into the page. Instead, [attach the link to words that describe the link destination](#) (Links to an external site). Doing this

will help everyone – with or without a screen reader – understand where the link will take them. Context is important!

Please consult the Canvas [General Accessibility Design Guidelines](#) for more detailed information.

Digital Accessibility Checklist



Check your course resources for accessibility using the following criteria:

- **Documents**
 - Does the document include *headings, lists, landmarks, and other semantic elements* to communicate document structure? [More about How to Create Accessible Documents and Images](#)
 - Are the *tab order* and *read order* logical and intuitive? [More about Ensuring Proper Tab and Read Order](#)
 - Have you avoided using *visual characteristics* to communicate information (e.g., “click the circle on the right” or “required fields are in red”)? [More about Avoiding Reliance on Visual Characteristics](#)
 - Does the interface have *sufficient contrast* between text color and background color? [More about Providing Sufficient Color Contrast](#)
 - Does the content *scale well* when text is enlarged up to 200%? [More about Supporting Enlarged Text](#)
- **Images.** Do all images have *alternative text*? [More about How to Create Accessible Documents and Images](#)
- **Video/Audio.** Does video content have *captions* and does audio content (e.g. podcasts) have a *transcript*? [More about How to Ensure Videos Are Inclusive and Accessible](#)
- **Web Pages.** Do web pages include *headings, lists, landmarks, and other semantic elements* to communicate page structure? [More about Providing Structure in Web Pages](#)
- **Forms.** Do form fields within web pages and documents have appropriately coded *labels and prompts*? [More about Creating Accessible Forms](#)

Digital Accessibility Guidelines and Standards

The increase in online course content, combined with the recent lawsuits at Harvard and MIT and updates to [Section 508](#), have pushed digital accessibility into the forefront of higher education awareness. In building online course materials it is important to bear in mind that, as a public university receiving federal funding through the Assistive Technology Act, Columbia University is required to meet Section 508 standards for web-based intranet and internet information and applications.

Conforming to these standards requires that materials that are not already created to meet accessibility standards will need to be altered to accommodate students with disabilities. Examples of materials that would require accommodations would include:

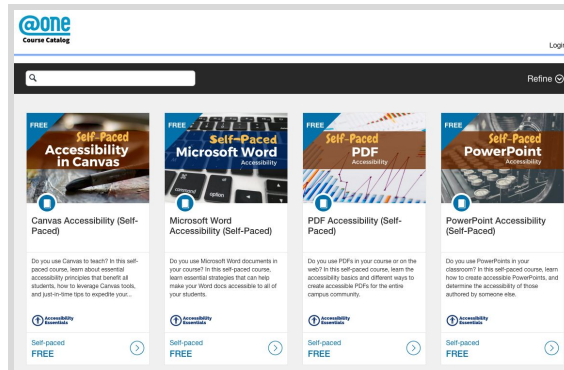
- Videos that have audio would need captioning and text transcripts
- Audio files would need text transcripts
- Images should have alternate text or descriptions set for them to convey meaning
- Color-blind individuals should be able to interpret a page successfully
- HTML tables should use the <th> tags to designate column and row headers

The following accessibility guidelines, standards, and specifications are commonly referenced in higher education:

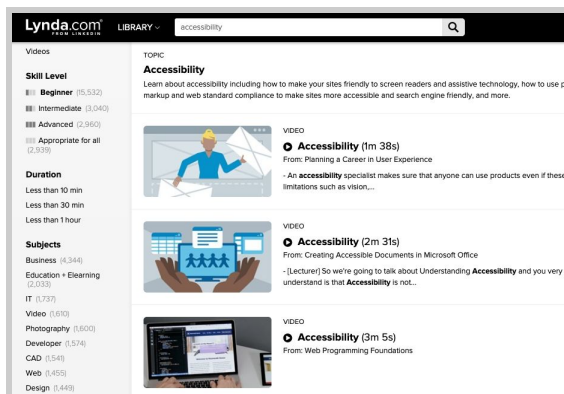
- [Web Content Accessibility Guidelines 2.1](#) (WCAG 2.1). This is the definitive set of web accessibility guidelines, from the World Wide Web Consortium (W3C). WebAIM has created a useful and comprehensive [WCAG 2.1 Checklist](#) for web content creators. The W3C's [Web Accessibility Initiative \(WAI\)](#), in partnership with organizations from around the world, pursues accessibility of the Web through a consensus-based process.
- [Accessible Rich Internet Applications](#) (ARIA). ARIA is a W3C specification, currently a working draft, that provides a way to make dynamic web applications and advanced user interface controls more accessible to people with disabilities.
- [Section 508 \(Refresh\)](#). This site from the U.S. Access Board features the full text of the Section 508 legislation as updated in January 2017, the Electronic and Information Technology Accessibility Standards and accompanying tutorials.
- [The Web Standards Project](#). A self-described “grassroots coalition fighting for standards which ensure simple, affordable access to web technologies for all.”
- [WebAIM](#): a leading provider of web accessibility expertise internationally. WebAIM is a non-profit organization based at the [Center for Persons with Disabilities](#) at [Utah State University](#).

Free Accessibility Training Opportunities

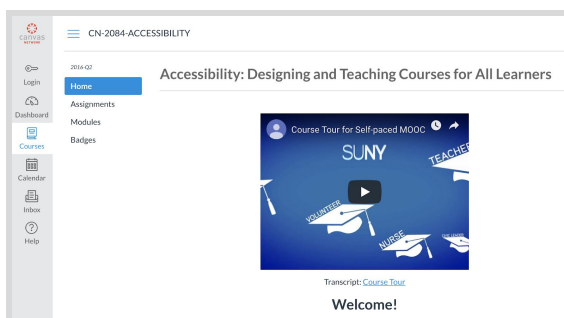
- [Free self-paced resources from the Online Network of Educators](#)



- [Free self-paced resources on Lynda.com](#) (Columbia University has a school-wide license; you can only access the content by logging in with your UNI email)



- [Free self-paced MOOC on Canvas.net: Accessibility: Designing and Teaching Courses for All Learners](#)





Global Accessibility Awareness Day

May 12, 2020

(stay tuned for information about how you can participate)

***GAAD** is an awareness day focusing on digital access and inclusion for the more than one billion people with disabilities and impairments. It is marked annually on the third Thursday of May and celebrated around the world.*