# Digital Accessibility 101

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# Goals for Today

- Introduce accessibility and why it matters.

- Review campus compliance requirements.

- Explore practical strategies for integrating accessibility into everyday work.

- Share resources and tools available to support accessibility efforts.

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# Agenda

- **Overview & Compliance** – Tarah Dykeman, Information Strategy & Services

- **Web Accessibility** – Christopher Rodriguez, Information Strategy & Services

- **Digital Communications** – Nicole Lawrence, Office of Communications

- **Course Materials** - Lynée Sanute, Office of Digital Learning

- **Student Accommodations** – Lauren Fontana, Office of Disability, Access & Inclusion

- **Employee Accommodations** – Steven Blackwell, HR – ADA Compliance

- **Q&A**

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# Overview & Compliance
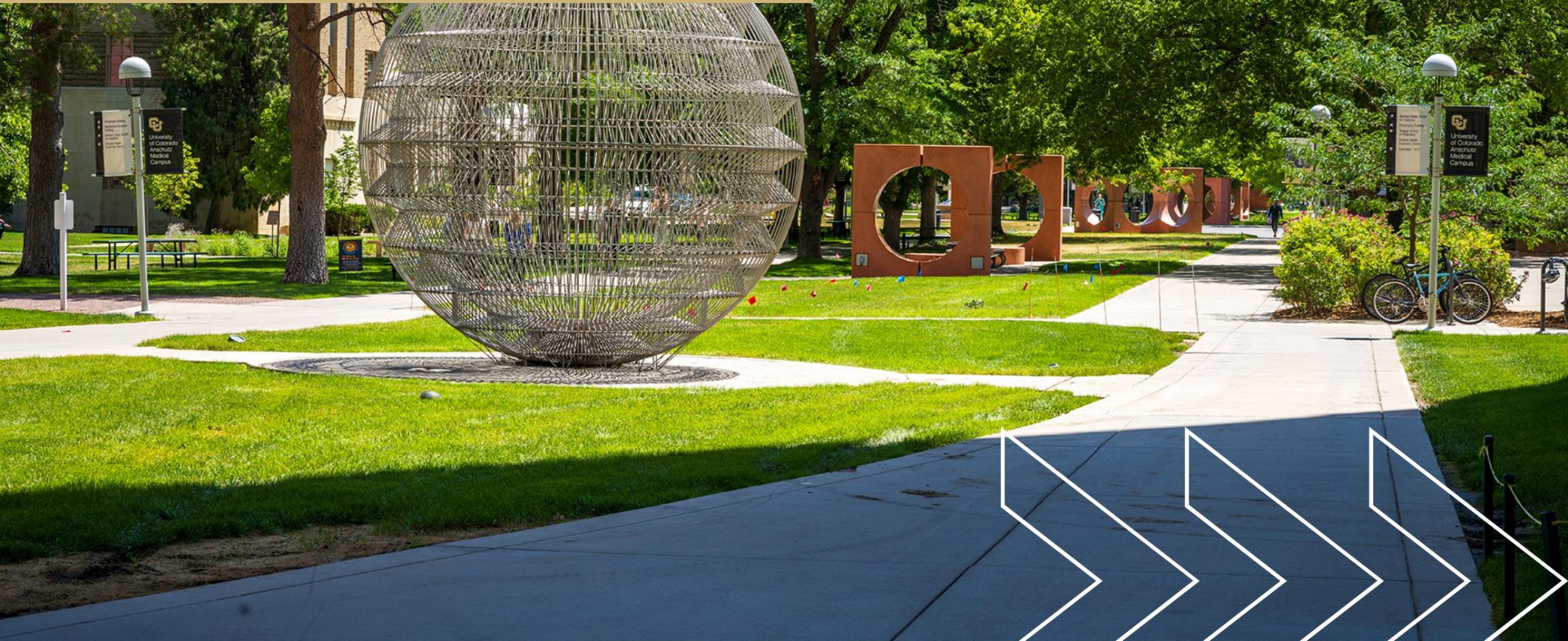
# Understanding Accessibility

- **Accessibility**: Products, devices, services, environments, and facilities are usable by as many people as possible, including those with disabilities.

- **Digital Accessibility**: All people should have the opportunity to access the same information and services in the digital environment without facing undue barriers or burdens.

Source: Indiana University, CU Boulder

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# Examples of Accessibility

## Digital

- Alt text for images

- Color contrast standards

- Heading levels and reading order

## Physical

- Curb cuts

- Ramp entrances to buildings

- Push buttons for doors

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# Why does accessibility matter?

- It's the law. It's a civil right. It's a human right.

- Over 28% of the U.S. population has a disability (more than 1 in 4).

- Improves user experience and promotes equal access.

- Aligns with our values of excellence and community.

# HB21-1110 Compliance

- Proactively provide accessible digital content and information and communication technology (ICT) that meets [established technical standards](#)

- Provide reasonable accommodations or modifications upon request

- Demonstrate ongoing progress in accessibility efforts

FAQ: [Understanding HB21-1110 Compliance](#)

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# Top Accessibility Issues

- Using CU gold text on a white background (and vice-versa)

- Using long URLs or non-descriptive link text ([Click here!](#))

- Not applying heading levels and proper heading structure

- Inaccessible images

- Using inaccessible PDFs

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# Guidelines to Remember

- Progress, not perfection

- Do not remove inaccessible content

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# Prioritizing Efforts

- **High**: Widely used, public-facing, legally required, or required to complete important tasks

- **Medium**: Internally used but frequent or essential for operations

- **Low**: Rarely accessed, supplemental information, or complex to remediate

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# General Resources

- [Digital Accessibiliy Standards and Resource Library](#)

  - [CU Accessibility Fundamentals (Skillsoft)](#)

  - [Accessibility Planning Template](#)

  - [Accessibility Testing Tools](#)

- Consultation Requests: Email [DigitalAccessibility@cuanschutz.edu](mailto:DigitalAccessibility@cuanschutz.edu)

- Join the [Digital Accessibility Community](#)

- [Accessibility Barrier Reports and Accommodation Requests](#)

- [Procurement and Accessibility Assessments (requires university sign in)](#)

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# Tips & Strategies

Digital Asset Accessibility

# Digital Asset Accessibility
## Correct Use of Imagery

- Use images to support, not replace text

- Avoid images of text, unless necessary



Alt text: "Supporting Image with DNA icons"

LIVE TEXT
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

# Digital Asset Accessibility
## Use Descriptive Text Alternative

- **Images**: Add meaningful alt-text

- **Video & Audio**: Captions and transcripts

Supporting Image

Alt text: "Supporting Image with DNA icons"

Subtitle text here and here and here and here

Transcript of audio written out here and here and...

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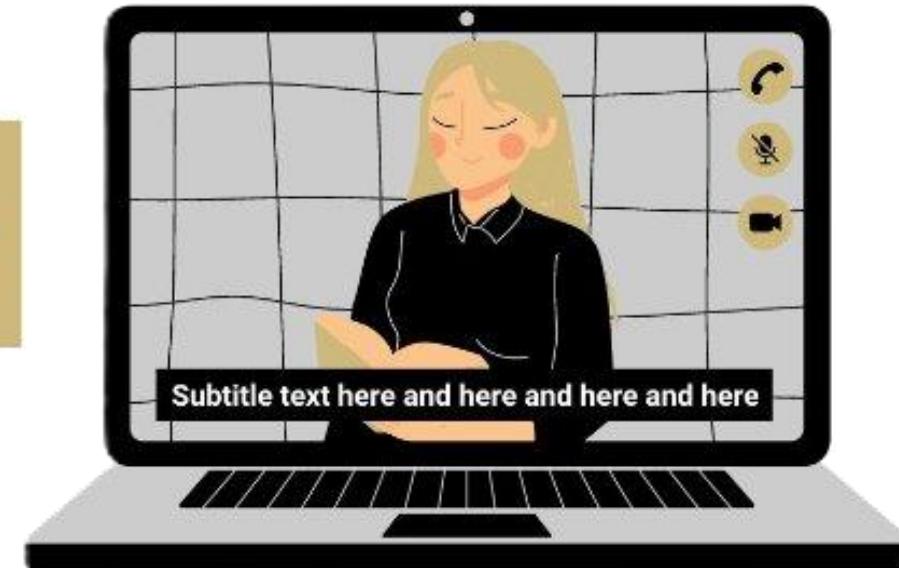
# Digital Asset Accessibility
## Design with Color Contrast in Mind

- Strong color contrast between text and background

- CU gold on white and vice versa not accessible
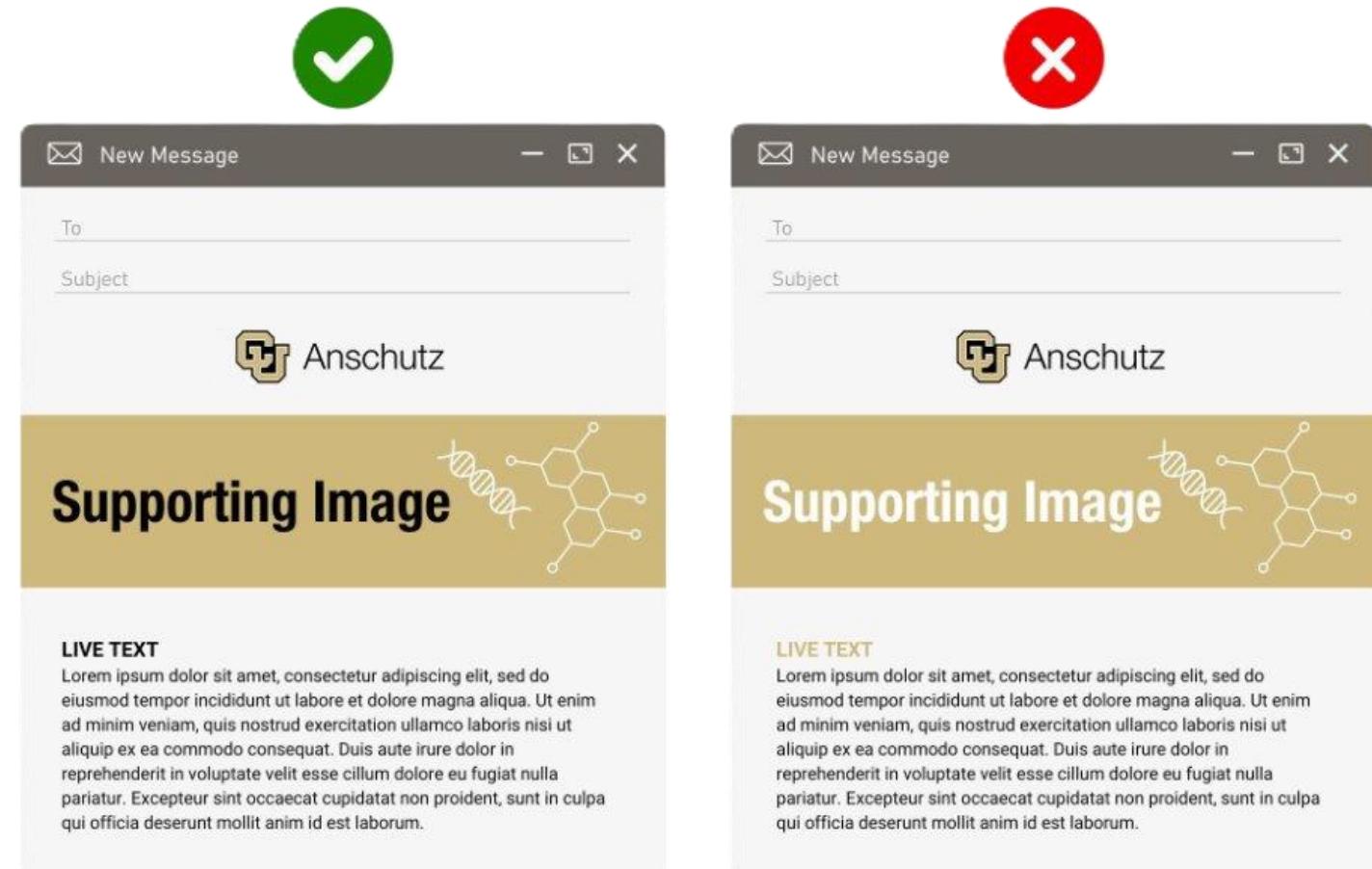
# Digital Asset Accessibility
## Create Structured Content

- Use proper HTML tags (H1, H2, H3, etc.) to organize content

# Digital Asset Accessibility
## Use Legible Fonts

- **Minimum font size**: 14pt

- **Preferred fonts**: Roboto or Arial

- **Line spacing**: 1.5

### Arial Title

Paragraph Text Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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### Script Font Title

Paragraph Text Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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# Digital Asset Accessibility
## Make Hyperlinks Accessible

- Use descriptive link text

- Ensure link is visually distinct

This is an example link to our home page

Click Here

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# Digital Asset Accessibility
## Avoid QR Codes
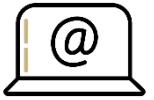
- QR codes are not clickable in digital formats

- Use only when bridging gap between physical and digital (posters, flyers, etc.
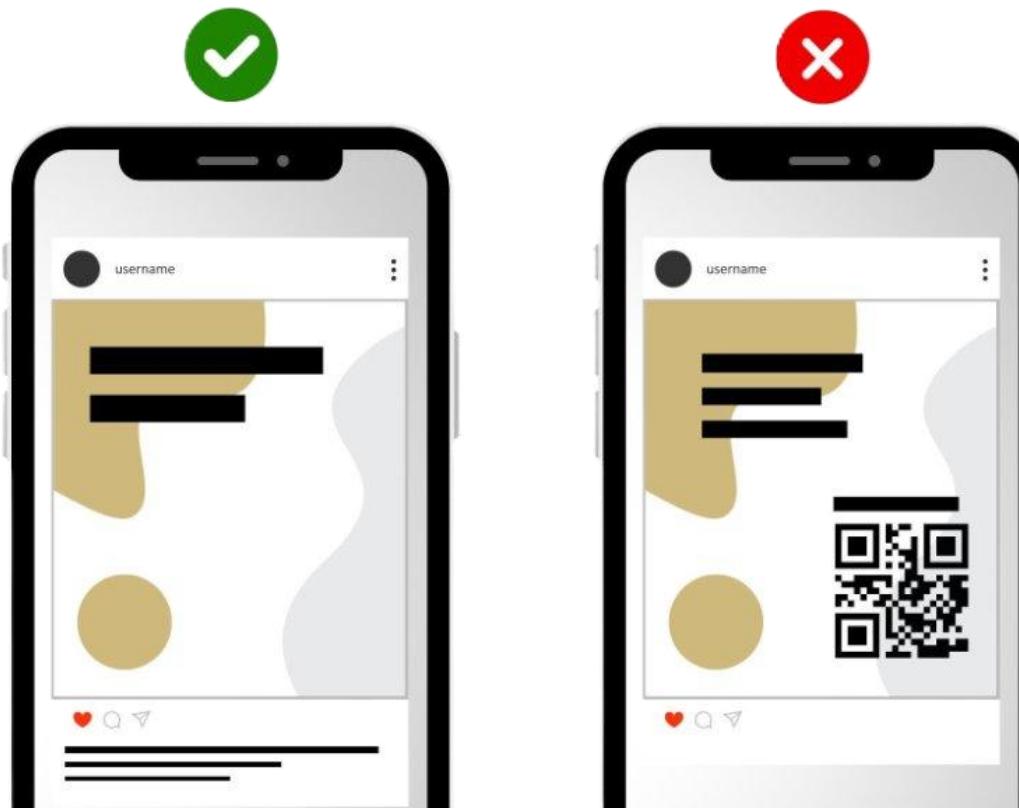
# Digital Asset Accessibility
## Resources

- [Digital Asset Accessibility Guidelines](#)

- [Alt-Text Best Practice](#)

- [Color Contrast Checker](#)

- [CU Colors](#)

- [Information on Captioning](#)

- [Accessible Design Templates](#)

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Web Accessibility

# Web Accessibility

Web Accessibility means that websites, tools and technologies are designed and developed so that people with disabilities can use them. More specifically people can:

- Perceive, understand, navigate and interact with web content

- Contribute to the Web

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# Web Accessibility Continued

## Types of disabilities that affect access to web content:

- **Auditory** (Deafness, Hearing Loss)

- **Cognitive** (Dyslexia, Sensory Overload)

- **Neurological** (Seizure Disorders)

- **Physical** (Motor Impairments, Limited Mobility)

- **Visual** (Blindness, Color Blindness, Low Vision)

## Examples of Assistive Technologies:

- **Screen Readers** (JAWS, NVDA, VoiceOver)

- **Speech Recognition Software** (Dragon, Google Assistant)

- **Screen Magnifiers** (physical and virtual software)

- **Braille Displays** (Translate on screen text into braille, allowing users to read web content through touch)

- **Closed Captions**

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# Assistive Technologies – Screen Readers

**What is "focus"?** - refers to any web element on the page a user is currently interacting with.

**Focus Order** – the sequence or order in which elements on a web page are navigated through using keyboard inputs.

**Focus Outline** – the visual outline interactive elements get when in keyboard focus.

Screen reader users navigate through a webpage using the keyboard tab button, arrow buttons and other keyboard inputs. When a web element is in focus, it should be announced to a screen reader.

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# WCAG

To address global web accessibility concerns, the W3C (worldwide web consortium) established the international Web Content Accessibility Guidelines (WCAG) in 1999.

- Currently at WCAG 2.2 (2023) with thirteen guidelines.
- WCAG 3.0 currently in development.

The current thirteen guidelines are organized under four guiding principles which are: perceivable, operable, understandable and robust, often referred to as **POUR**.

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# WCAG - Perceivable

**Perceivable** - Information must be presented in a way that users can perceive it using one of their senses. It can't be blocked from all senses. Here are a few examples:

- Captions or descriptions for audio and video content where appropriate.

- Color contrast ratio is at least 4.5:1, color not only method used to convey info.

- Text can be resized without loss of content or functionality.

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# WCAG - Operable

**Operable** - If all users can effectively navigate a website, it's considered operable. If a site requires users to interact in a way that's not possible for them, a website is not meeting this principle. Examples include:

- People who can't use a mouse should be able to effectively navigate a website using just the keyboard or voice controls.

- Users can pause, stop or hide content that automatically moves, blinks or scrolls and lasts longer than five seconds.

- Users are provided enough time to read content.

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# WCAG - Understandable

**Understandable** - The principle of understandable is just as it seems—users must be able to understand the information as well as understand how to operate within the user interface. Examples include:

- The language of the page is specified.

- Labels are provided when content requires input from the user, buttons are labeled.

- Navigation is consistent and predictable across site making it easy for users to find their way around pages and site.

# WCAG - Robust

**Robust** - content must be flexible enough that it can be interpreted by a wide variety of possible user agents, as well as technologies that may evolve. Examples include:

- Site is compatible with assistive technologies such as screen readers.

- Clean, well structured code with complete start and end tags.

- Future Proofing - designing content with future technologies in mind ensuring it remains accessible as technology changes (mobile, tablets, etc).

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# WCAG Conformance

WCAG guidelines are categorized by three levels of conformance:

- A = the lowest, or bare minimum conformance level. Web content **must** comply with these requirements.

- AA = the mid-range conformance level. Web content **should** comply with requirements.

- AAA = the highest level of conformance. Web content **may or may not** comply with requirements.

**The typical goal for most website owners is AA conformance. AA is also the standard by which most legal requirements are judged.**

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# Web Accessibility Testing Process:

- Pages are initially checked with an automatic web evaluation tool such at the WAVE plugin or Siteimprove.

- Pages are manually checked for keyboard accessibility (detailed information can be found at our @web page).

- Pages are checked in mobile view and when content is scaled up to 200%.

- Pages are tested with a screen reader. We test to make sure all critical content, interactive elements, inputs and functions are understandable and usable by screen reader users. Any dynamic page changes (announcements, notifications, pop-ups, page reloads, etc) are accurately being conveyed to screen reader users.

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# Web Accessibility Essentials

## Audio and Video Content

- Audio only (such as podcast): **Transcript required at WCAG Level A.**
- Video only (no audio): **Transcript or audio description required at WCAG level A.**
- Video with audio:  **Captions are WCAG level A**

- Videos should avoid flashing content altogether. Otherwise, it should be limited to less than 3 flashes per second.

## Zoom in to 200%

- Does any of the content overlap or become far apart?
- Do you have to scroll horizontally to read anything, is content cut off?
- Do links, buttons, forms, and menus still function with the content zoomed?

## Mobile View

Check web content on a mobile device, or by using browser developer tools which simulate a mobile view.

- Is content still viewable? Is anything being clipped or overlapping?

- Are interactive elements such as buttons and links big enough to be tapped on by a user?

## Color

- Check that the text and background color has a contrast ratio of at least 4.5:1. Color contrast can be checked using this online tool. The WAVE plugin can detect color contrast issues automatically.

- Ensure color is not used as only way of conveying meaning or information.

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# Web Accessibility Essentials Cont.

**Images**

- All non-decorative images should have alternative text.

- Images of text content are generally discouraged. If they are used, confirm text is present either in the body text accompanying the image, or in the alt text.

- Decorative images should have alt text = ""

**Forms & Buttons**

- Make sure form controls and buttons have labels.

- If a label is not visible, check for a hidden <label>, aria-label, or title attribute in the code.

**Body Text**

- Confirm that page titles are unique and descriptive, marked as <h1>. There should only be one <h1> per page.

- Look for generic link text like "read more" or "click here." These should be changed to better reflect the description of the link.

- Links in body text should be underlined and have a differing color from surrounding text. Usually a dark blue.

**Tables**

- Tables should only used for tabular data, not for content layout.

- If data tables are present, ensure there are row and/or column headers. This gives context to users (especially screen reader users) about the data.

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# Web Accessibility Resources

- [W3C](#)

- [WCAG 2.2 Guidelines](#)

- [Wave Browser plugin](#): a free browser plugin that automatically checks page content for accessibility issues.

- [NVDA screen reader](#): a free downloadable screen reader.

- [UCDenver/Anschutz @Web Accessibility page](#)

- [Siteimprove](#)

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Course Materials

# Top 3 Issues in Canvas Courses

Documents

Images

Text Organization

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# Accessible Course Materials

## Find Your Motivation

## Create a Plan: Work Smarter, not Harder

- Block Time
- Respond to Immediate Needs
- Batch Tasks
- File Organization

## Remember: Progress, not Perfection

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# Free On Demand Training

Foundations of Accessibility

Course Remediation Tips and Tricks

Microsoft Accessibility Tips

Accessibility Challenge: Can You Spot the Best Practice?

Accessibility Adventure: Productivity Edition

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# Course Materials Resources

- [Office of Digital Learning Live & On-Demand Training](#)

- [Creating Accessible Equations and Formulas](#) (includes an open-source math

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Accommodations

# Student Accommodations

- In general, faculty are responsible for ensuring that their course materials meet digital accessibility requirements

  - With help from instructional design teams (where available) and the Office of Digital Learning

- If course materials are inaccessible, student may obtain an accommodation through the Office of Disability, Access, and Inclusion (ODAI) to ensure accessible materials

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# Student Accommodations: Course Materials

- Alternative format textbooks

  o ODAI obtains for student

- Closed captioning and transcripts

  o ODAI provides for students with accommodations

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# Student Accommodations: Assessments

- Text-to-speech software for assessments

  - ODAI provides software

  - Faculty provides accessible version of assessment

- Electronic version of paper assessments

  - Faculty provides to ODAI

- Paper version of electronic assessments

  - Faculty provides to ODAI

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# Employee, Applicant, & Visitor Accommodations

- Human Resources partners with colleges, schools and units to coordinate accommodations for **employees, applicants, and visitors.**

  o **Promoting** accessibility beyond the classroom and office — including events, trainings, and sponsored content (e.g. conference materials).

  o **Communicating** our commitment to accessibility and providing a clear, simple process for requesting accommodations.

  o **Evaluating** requests and determining reasonable accommodations.

  o **Connecting** with internal and external resources to meet accommodation needs.

- Contact us at [hr.adacoordinator@cuanschutz.edu](mailto:hr.adacoordinator@cuanschutz.edu)

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# Accommodations Resources

- [ODAI Faculty Resources: Implementing Accommodations](#)

- [Using the AIM Faculty Portal](#)

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Q&A

# PDF Tips

PDFs can be challenging to make accessible. Consider alternative formats: HTML webpages, Microsoft Word & PowerPoint, forms

If you do need a PDF:

- Start with an accessible document, then export to PDF

- OCR (Optical Character Recognition) image-only/scanned PDFs

- Use Adobe Acrobat to check and remediate accessibility

Resource: PDF Accessibility Guide

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# PowerPoint Tips

- Slides require unique titles for each slide. For example: *Headings, Headings (continued)*

- Always add alt text to images in your presentation. Do not use images of text.

- Check color contrast. Do not use color alone to convey meaning.

- Use fonts that are easy to read and sans serif (such as Roboto or Arial).

  - Body text font size should be 18 or larger.

  - Heading text font size should be 24 or larger.

Resource: [Accessible Presentations Guide](#)

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