Creating Accessible OER:

What Makes Educational Resources and Course Content Accessible?

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UBC Point Grey Campus is on traditional, ancestral, unceded Musqueam Territory.

Photo: Musqueam Post, sʔiːɬqəy̓ qeqən (double-headed serpent post), on the UBCV Campus

Photo by UBC Brand and Marketing

https://youtu.be/Lwciwt-gXoQ
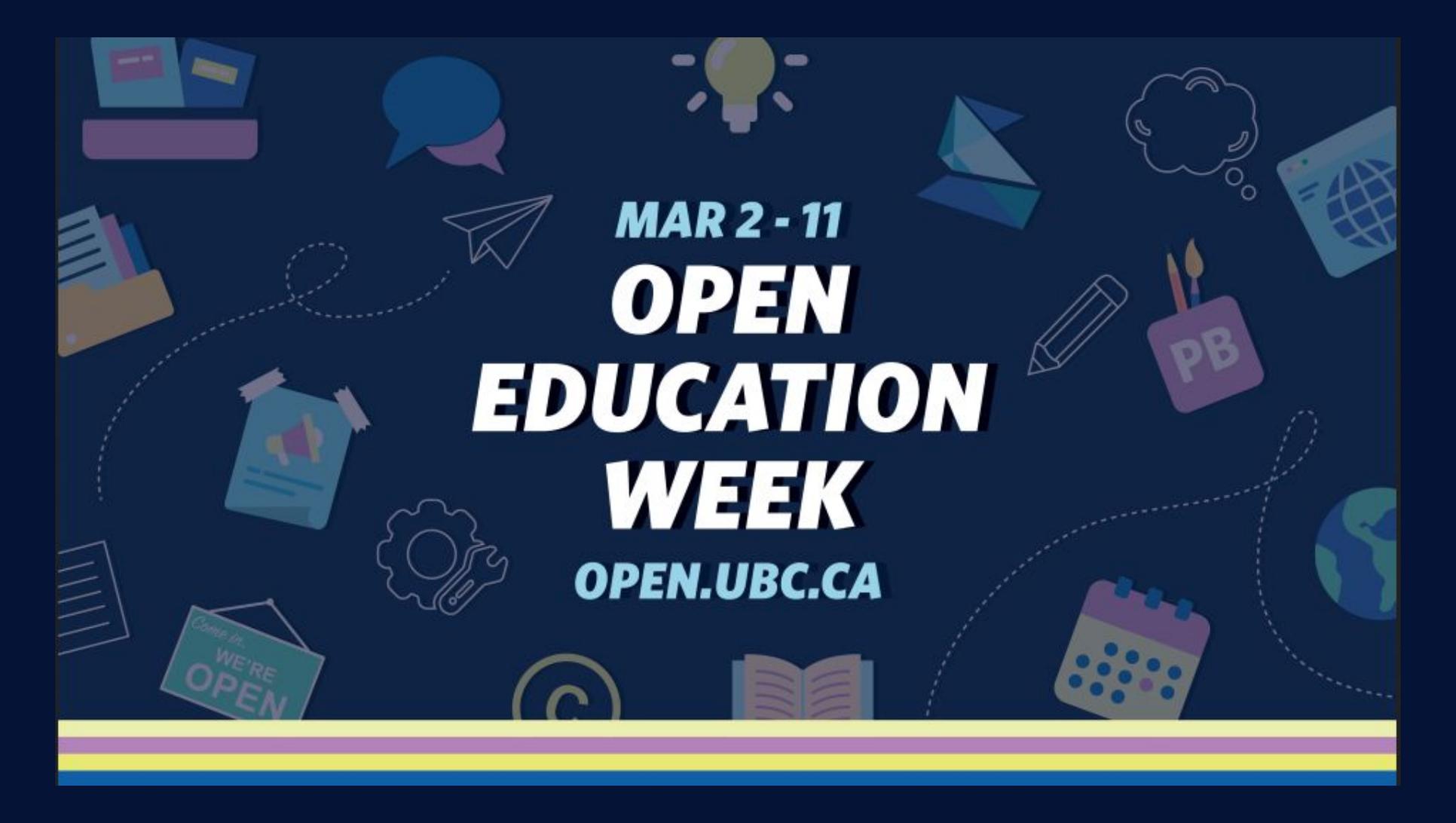
We hope you will leave this session with:

- An introduction to why accessibility of course materials is important for students

- Considerations for designing accessible and open educational resources (OER) and course content

- Knowledge about where to find support and resources for creating accessible and open content.

  Slides Available at:

Opening Question:

Where are you from? What knowledge about "accessibility" do you bring with you, and what would you like to learn?

Open Educational Resources

Open Educational Resources (OER) are defined as "teaching, learning, and research resources that are free of cost and access barriers, and which also carry legal permission for open use.."

Scholarly Publishing and Academic Resources Coalition (n.d). *Open Education*. SPARC.
Retrieved from: https://sparcopen.org/open-education/

Using OER is a great strategy to improve access to education!

- **Financially:**
  - Online versions are free to students (and instructors).
  - No access code is needed. There is no expiration date.
  - Can use, copy, or distribute those resources amongst an unlimited number of people.

- **Accessibility of the resources themselves:**
  - OER that is not accessible to all learners is not truly open
  - The open copyright license also makes it permissible for all users to change the format of the material as well.
  - You can often download and save offline versions in multiple formats

- **Customizability:**
  - The open copyright license makes it easy for instructors to provide meaningful, contextualized resources that fit their courses
  - Can edit to be inclusive of the diversity of backgrounds and experiences of students

Affordability of Course Resources is a Barrier to Learning

According to the [2025 AMS Academic Experiences Survey](#) (n=2,134):

- **77%** of students indicated they had bought a textbook or other course resource and didn't use it, or rarely used it.

- **29%** of undergraduates in the last year frequently or often went without textbooks or other course resources due to cost

- **25%** of students expressed financial hardship related to the costs of textbooks and course materials

- **46%** of students expressed concerns that they might not be able to return to UBC in the future due to financial reasons

Other Access Problems?

- **Access to the materials can expire**!

- Textbooks are often **not well-aligned or contextualized** with the course

- Materials on library reserve often **cannot be used by multiple people** at the same time, or may have **page/chapter view limits**

- Textbook materials **may not be accessible** for all students

- Others?

What Else Affects Accessibility?

- Day-to-day life
- Digital literacy
- Access to technology
- Structure of information
- Presentation of information
- The accessibility of the content itself

-adapted from Josie Gray (2019). <u>How to Create Inclusive and Accessible OER</u>, BCcampus.ca

UBC Centre for Accessibility

- Serves registered UBC students with documented conditions
- Students, instructors, advisors and staff work together
- Accommodations are determined on an individual basis and can change
- Accommodations are **non-optional**

  Examples: extended time and/or private space for exams, note-taking assistance, alternate format materials, mobility training, captioning or ASL interpretation, reserved seating, adaptive furniture and technology, permission to record lectures, accessible classroom assignments, priority housing

UBC Centre for Workplace Accessibility

- UBC has accessibility resources and support for staff and faculty, too!
- Confidential and consent-based (they are very nice folks)
- Call or email: 604 822 8139 or workplace.accessibility@ubc.ca

Services include ErgoAccess demos, accessibility consultations, disability literacy resources, accessibility information, initiatives and workshops, as well as accommodations (including funding and accessible parking support) for staff and faculty with disabilities or medical conditions

https://hr.ubc.ca/health-and-wellbeing/workplace-accessibility/centre-workplace-accessibility

Accommodations and Accessibility

- Accommodations often address accessibility concerns, but **accommodations are legally mandated and specific to each registered student**
- Accessibility is a broader design philosophy
- Users who can benefit from accessible design don't necessarily have accommodations (or identify as "needing" accommodations)
- Accommodations can be difficult to access; designing for accessibility helps us get around those limits of access, time, and cost
- Accessibility features are for everyone

Why Accessible Design Is For Everyone

- Accommodates adaptive technologies (hardware, software, accessories)
- Accommodates a variety of devices
- Accommodates as many learners as possible
- Accommodates those who don't necessarily identify as "disabled," as well as students who don't have formal diagnoses or documentation
- Accommodates revisions, updates, and other changes

Check out CTLT's Accessibility 101 site to get started!

Platforms and Accessibility

- How open is your platform? Do users need a log-in or VPN?
- Format choices: can users print, read offline, access via mobile device?
- Media choices: incorporating video, audio, images, external links?
- Input choices: radio buttons, page navigation, embedded quizzes, collab…
- Layout choices: text boxes, notes, frames/embedded documents

Simplifying layout can improve user experiences whether or not your users are relying on accessibility technologies.

Reduced cognitive burden, reduced technological friction, reduced frustration = better user experiences

Making Content Accessible

Accessible content is great for your students, but it also helps make your teaching life easier! Accessible content is durable, flexible, and functional.

- **Durable**: "future-proofed," not tied to a specific platform or service
- **Flexible**: update from term to term or as course requirements change; easy to modify, reorganize, edit, repurpose, and share.
- **Functional**: no points of friction; pleasant for students and TAs to use

Check out CTLT's [Accessibility 101](#) site to get started!

Text-Based Content

- While PDFs are *technically* "open" and *technically* "accessible," other options may be easier for you **and** for your students
- Consider PressBooks, Wiki, EPUB, HTML… but if it absolutely, positively has to be a PDF, make it accessible
- Limit use of text boxes and tables where possible; simplified list formatting and bullet points can help
- Use headings and tags, keep your style consistent, make good font and layout choices
- Ensure math content is accessible

Font Type, Size, and Colour

- Allowing users to choose, or at least change, is ideal
- 14pt font is a good "floor," avoid going below 12pt if you can
- Good all-purpose choices include Verdana, Helvetica, Arial, Roboto
- "Accessible" fonts like Open Dyslexic and Tiresias are not as widely installed; users' browsers will go to a default, which may affect content layout
- One user's "accessible" can be another user's "distracting;" some prefer sans-serif for readability, but some find serifs useful
- Check your contrast levels – not too low, but not too high!
- DON'T rely *solely* **on** colour or *formatting* to convey meaning

"What is the most accessible font?" It depends…

- Good "all purpose" choices include Verdana, Helvetica, Arial
- Roboto is open-source, works for print and web
- Fonts like [Open Dyslexic](#) and [Tiresias](#) are not as widely installed; browsers will go to "default," which may affect layout
- One user's "accessible" can be another user's "distracting," and vice versa; many prefer sans-serif for readability, but some find serifs useful.

  Does your content use special characters or symbols? Make sure they're supported! (And make sure they're formatted for accessibility!)

SensusAccess

Purpose and Benefits of SensusAccess

- Converts files into multiple accessible formats including audio, BeeLine Reader and tagged PDFS

- Available 24/7 with no need to disclose a disability

- Improves inclusivity, provides scalable, on-demand accessibility solutions.

Supported File Formats

- Audio files: MP3 & DAISY talking books

- Accessible PDF and document remediation

- E-books (EPUB, MOBI)

- Digital Braille

- BeeLine Reader
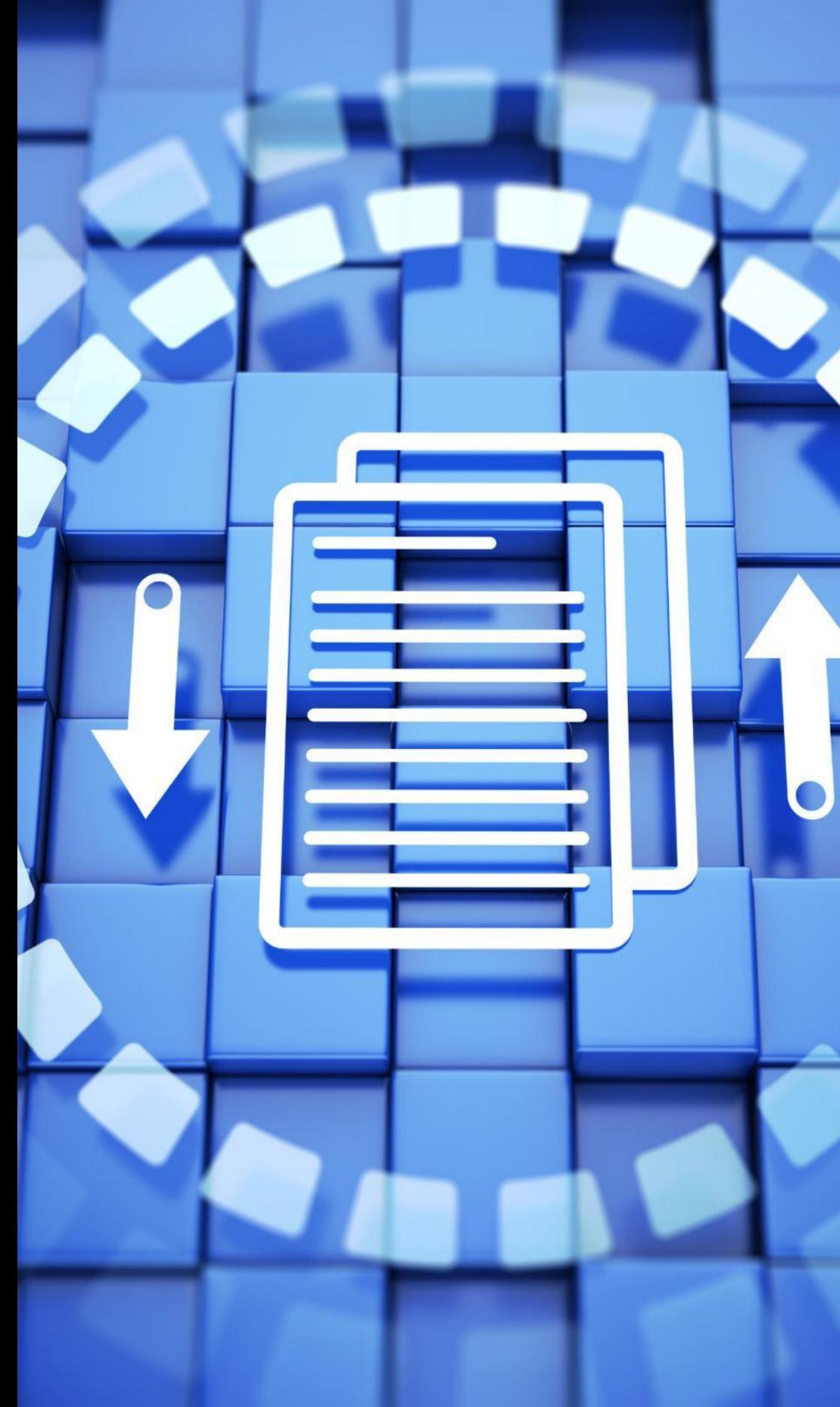
BeeLine Reader

Neuro-Affirmative Opportunities

The CWA is thrilled to share a new initiative, ADHD Peer-Support with TideMinds Therapy. This seven-week course provides opportunity for neurodivergent staff and faculty to build skills, share experiences, and create a supportive space for growth and understanding.

Interest in this professional development opportunity has been overwhelming. The program was announced at the beginning of January and the first session was full within a week. A second session was quickly approved and it filled up within a week. The first cohort started in late February and the second cohort will begin in late April.

BeeLine Reader uses colour gradients to guide your eyes from one line to the next, making reading faster and easier

Privacy and Copyright

- Privacy Impact Assessment completed

- No personal data collected, no cookies tracked, source documents deleted after conversion

- Do not upload materials that contain copyrighted content, confidential or sensitive information

- Converted files are for personal use only

How to access SensusAccess

- Go to UBC's SensusAccess Conversion Form

- Login with your CWL

- Upload your document

- Choose your desired format

- Enter your **@ubc.ca** email address and submit

- Check your email for the converted file

- Converted files typically arrive within a few minutes
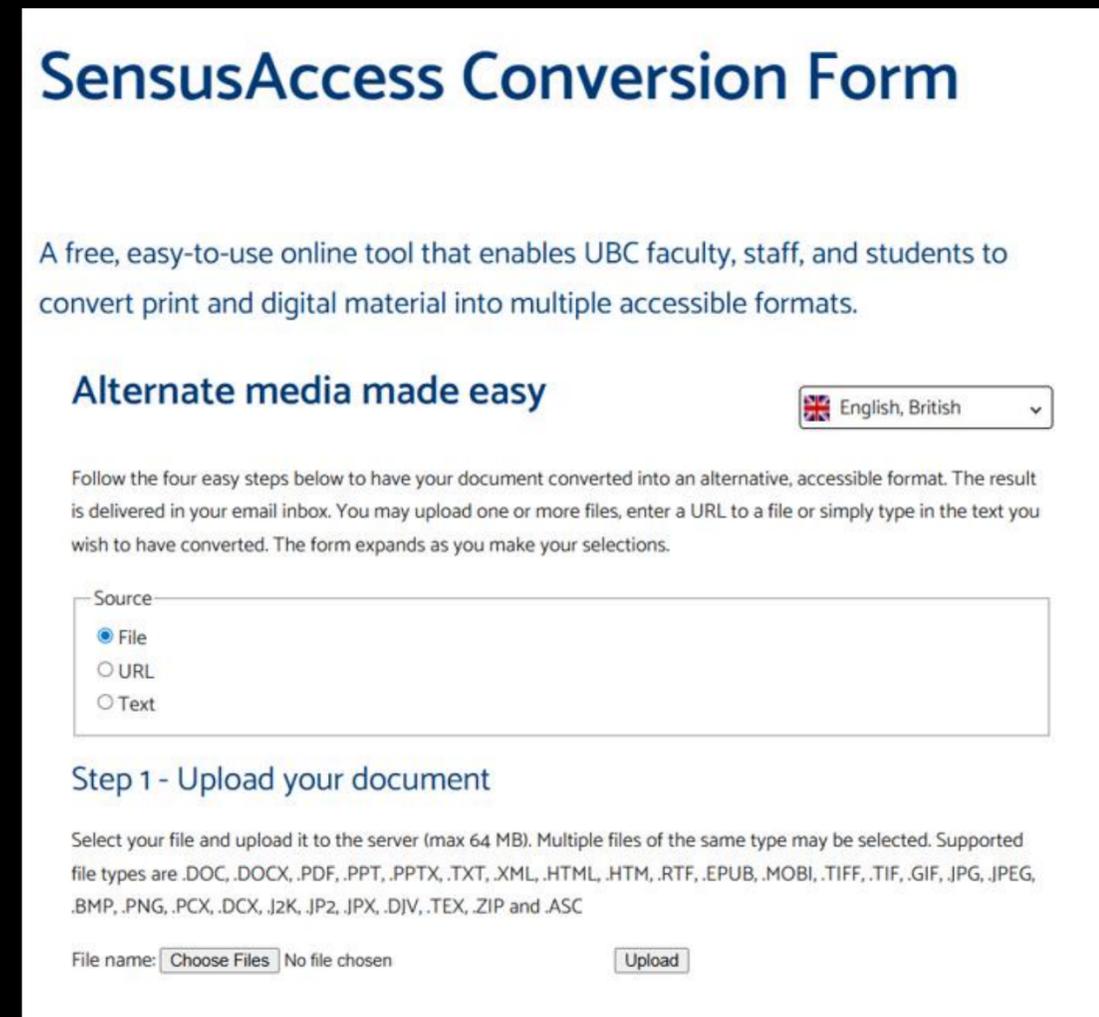
SensusAccess Conversion Form

A free, easy-to-use online tool that enables UBC faculty, staff, and students to convert print and digital material into multiple accessible formats.

Alternate media made easy

English, British

Follow the four easy steps below to have your document converted into an alternative, accessible format. The result is delivered in your email inbox. You may upload one or more files, enter a URL to a file or simply type in the text you wish to have converted. The form expands as you make your selections.

Source
- File
- URL
- Text

Step 1 - Upload your document

Select your file and upload it to the server (max 64 MB). Multiple files of the same type may be selected. Supported file types are .DOC, .DOCX, .PDF, .PPT, .PPTX, .TXT, .XML, .HTML, .HTM, .RTF, .EPUB, .MOBI, .TIFF, .TIF, .GIF, .JPG, .JPEG, .BMP, .PNG, .PCX, .DCX, .J2K, .JP2, .JPX, .DJV, .TEX, .ZIP and .ASC

File name: Choose Files | No file chosen   Upload

Live demo

Login:

- Go to <u>UBC's SensusAccess Conversion Form</u>

- Login with your CWL

Check Defaults

- Default language: British English

- Default source: File

Alternate media made easy

🇬🇧 English, British ⌄

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Source
- ⦿ File
- ◯ URL
- ◯ Text

Upload your document

Step 1 - Upload your document

Select your file and upload it to the server (max 64 MB). Multiple files of the same type may be selected. Supported file types are .DOC, .DOCX, .PDF, .PPT, .PPTX, .TXT, .XML, .HTML, .HTM, .RTF, .EPUB, .MOBI, .TIFF, .TIF, .GIF, .JPG, .JPEG, .BMP, .PNG, .PCX, .DCX, .J2K, .JP2, .JPX, .DJV, .TEX, .ZIP and .ASC

File name: [Choose Files] No file chosen   [Upload]

- Doc, DOCX

- PDF (image or text)

- PPT or PPTX

- TXT or HTML

- Image: JPEG, TIFF, PNG

Choose Format

- Choose your desired output:

- Accessible PDF, Audio (MP3), DAISY, Braille, EPUB, BeeLine Reader, etc.

- For audio, confirm language preference and reading speed

Step 2 - Select target format

Specify the target format of your document. For more information about formats, please visit target formats. For the uploaded document type, the following formats are available:

Target format
- ⦿ MP3 audio
- ○ DAISY full text and audio
- ○ DAISY Math full text and audio
- ○ Braille
- ○ E-book
- ○ Accessibility conversion
- ○ BeeLine Reader™ for faster reading

Step 3 - Specify audio options

Specify the natural language of your document and how fast you want the speech. For more information about MP3 audio, please visit MP3 audio features

Options

Language: English (British, female)

Speed: Default

Enter UBC Email Address

- Enter your **@ubc.ca** email address and submit
- Check your email for the converted file,
- Converted files typically arrive within a few minutes

Step 4 - Enter email address and submit request

Email address: abigail.overduin@ubc.ca | Submit

Ensuring high quality conversions

- Start with a well-structured digital file improves conversion accuracy

- Use heading structures, alt text for image and descriptive hyperlinks

- If scanning a document, ensure scanned pages are flat, text is clear

- Conversions can include hand-written notes but higher quality output if using print documents

- Review converted files for accuracy

Training

- SensusAccess e-learning course

- SensusAccess Guides and Best Practices

- SensusAccess FAQ

- More UBC specific training to come

Questions

Contact Centre for Workplace Accessibility

- Phone: 604.822.8139

- Email: workplace.accessibility@ubc.ca

- Web: hr.ubc.ca/cwa

Accessible Open Source Images

It's tempting to "save time" by using screenshots or re-using saved images, but image quality can degrade. Your images might not be zoomable, printable, or even readily interpretable…

- [Scalable vector graphics](#) are accessible *and* durable – ultimately saving you both time and frustration
- You may be able to request an Adobe Creative Cloud [license](#) through your department (though your TAs and students may not have access)
- Free/open source options: [Inkscape](#), [MethodDraw](#), [SVG Repo](#), [Vecteezy](#)
- **Check your rights and permissions!**

botany

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Is it a "Decorative" or a "Load-Bearing" Image?

- Even memes can be "load-bearing"
- If critical information is conveyed by an image, provide a full description
- If your image contains text, make sure it's selectable (or provided elsewhere)
- As with text, don't rely on colour, size, or positionality to convey meaning
- Fun is important, but legibility is more important
- Some students may still require specialized formatting for certain types of content; CfA is here to support you and your students in those cases.

Alt Text versus Image Description

If your image doesn't contain critical content, a brief alt text description is a good choice – but do ensure that any text in the image is conveyed. Purely decorative images should be marked as such, so they can be "skipped" by screen readers.

If students are being asked to interpret or identify key aspects of the image, consider how to best convey those key aspects in text form. Detailed captions might work well for some layouts; incorporating detailed references to the image directly in the body of your text might work better for your flow in other cases. (Using alt text for image identification and improved navigation is still a great idea!)

Standard Caption versus Detailed Caption

Figure 3.3: A field test conducted in 1942 to show the ability of phosphate to encourage plant growth. Phosphate deficiency reduces plant production. Source: Tennessee Valley Authority

Figure 3.3: A photo shows the results of a field test conducted in 1942 on the role of phosphate in plant growth. Rows of plants grow in a field divided in half; signs indicate the experiment's two groups.

The sign on the left reads "Starved by lack of plant food." Crops on this side of the field are stunted or dead. The sign on the right reads "Nourished on phosphate and lime." These crops are healthy and show vigorous growth.

Source: the Tennessee Valley Authority

Video and Audio Accessibility

- [Captions](#) are welcomed by many users. When possible, allow users to toggle on/off. AI-generated captions can be timesavers, but humans still must proofread and edit as needed.
- Avoid the "point and wave" technique when referencing visual content – read out text, describe key images/movements/scenes
- Provide transcripts for audio content where possible; identify speakers and include non-verbal audio where relevant; consider time-stamps

Knowing your audience can help – but when in doubt, most folks love captions.

What About AI?

- Potentially a great time/cost/labour saver, particularly when working with large numbers of images or long-form video and audio
- Quality can be hit or miss, even when using the same tool for the same content on two different occasions
- Do your due diligence: **always** read the EULA, TOS, and privacy/data policies – and **re-check them regularly** for any updates or changes
- Consider running models locally for more control over your content
- Some content requires extra care and handling for safety and legal compliance, so stay up-to-date with UBC's guidelines for GenAI use

Accessibility Checkers

- [Accessibility evaluation tools](#) are available, **but have their limits**
- Content creation apps (Microsoft Office, Adobe, Canva) and content sharing platforms like Canvas often have built-in checkers – a great place to start
- Tools like [WAVE](#) can help you check the accessibility of web-based content
- Automated checkers don't necessarily interact with content the way humans do, so they may miss errors or incorrectly flag accessible content
- Whether built-in or third-party, paid or free, automated checkers can only help identify potential accessibility issues; **human review is still needed**

Connect With Us

- Email-based or Zoom-based one-on-one support
- Accessibility Workshop Drop-ins - every other week from 1pm to 2pm on Zoom
    - March 10
    - March 24
    - April 7
    - April 26
    - May 5

Check out our upcoming sessions on the UBC CTLT Events page:

https://events.ctlt.ubc.ca/event-category/open-education/

Thank You!

- AC Deger - ac.deger@ubc.ca
- Will Engle - will.engle@ubc.ca
- Stephen Pannuto