

# Universal Design

## Making Classroom and Online Materials Accessible to All

### Tip Sheet

This tip sheet is intended to distribute information regarding accessible classroom and online materials to instructors and departments. Our goal is to further educate CSCC on the importance of Universal Design. Being proactive, rather than reactive, and incorporating Universal Design during the creation process of classroom and online materials is more time and cost efficient. In doing so, students that receive accommodations through Disability Services will receive accessible classroom and online content at the same time as their peers.

For further information or assistance with your documents, please contact Disability Services Alternate Media.

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# General Accessibility

## Information

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- Incorporating the information in this packet during the document creation process will assist in making sure all content is as accessible as possible.
- Blackboard and the MyLab platforms- the BB site itself is structured in a way that is accessible to students using screen readers. Students can navigate the site using keyboard commands. Issues arise when the content added to BB by instructors is not accessible. Similar issues can arise in MyLab. The site is accessible but the content and questions instructors choose to add may or may not be. Look for an “ear” symbol in the question lists to ensure the problems can be read with a screen reader.
- When delivering tests and materials to DS to be converted for a student, a digital copy rather than a hard copy is **required**. Starting from the digital source file is faster and the end product created for the student is of better quality.
- Keeping the original Word document or text file when creating materials is important. Even if the preferred end-format is PDF, having the original can ensure all students have access to the materials.
- Think outside the box. A math instructor said there was no way to represent shapes for a blind student in class, which resulted in the student dropping the course. The next time the student took that same course, a new instructor thought outside the box and found 3D models of the shapes that would be discussed in class. When the topic

came up, the instructor would hand the 3D model of the shape to the student who was then able to fully participate. Just a few extra minutes of the instructor's time made a huge impact on the success of the student.

- Consider this...You pass out or post a study guide to your class on a Thursday afternoon for a test the following Tuesday. Most students can get right to work studying and have the entire weekend to work on it. The DS student has to drop off the materials to DS after class on Thursday afternoon. Materials take 48 business hours to be processed. That means this student will not receive their materials until Monday and now have less than 24 hours to study and prep for their test. Everyone else had around 5 days to prepare. Take into account that it may take the student extra time to even read the materials; this has seriously impacted the student's ability to study for their test. If the instructor had kept their original Word document of the study guide, the student could have received the materials on Thursday afternoon, had plenty of time to study, and would have had a better opportunity to succeed on the test.
- Be aware that setting Permissions (password protection) on your documents could prevent a student from being able to use the document with assistive technology. While we are aware that intellectual property is important, a student using a screen reader needs to have access to their materials for the course.
- Supplemental materials added to BB or passed out in class must also be accessible. Just because it may not be mandatory to view or read does not mean it can be posted in an inaccessible format. For instance, an extra credit quiz or assignment, even though optional, should be available to everyone enrolled in the course. Be sure that

ALL materials that could be utilized in a course are available to ALL students.

- Students requiring braille items for class can contact DS to request materials. DS may contact the instructor or department for digital copies of the material to process into braille.
- Accessible math is the exception to this document and information. Creating accessible math is a tedious process that requires many steps and multiple types of software. Please contact DS if a student indicates that audio math is something they require. DS has the means to produce this specialized file format and would not expect an instructor to do so. However, we will request to stay in contact with the instructor regarding math materials to better serve the student.

# Microsoft Word

## Documents

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Word documents are the best way to create and store text that is accessible to all students. Even if the end product needs to be a PDF, PowerPoint or another type of document, saving your Word documents will allow for accessibility if a student will be using a screen reader or magnifier. You can choose to provide it to everyone or just send it to the student who will be using assistive technology. Keeping this document will allow the student to access their materials at the same time as the rest of the class. Typically, a DS student will need to bring their handouts, classroom materials and Blackboard materials to the AM staff and wait approximately 48 business hours for them to be processed. This processing time can put the student behind if materials are not received in advance.

Below are the steps an instructor can take to create an accessible Word document:

- Using official heading styles, instead of just bolding titles, allows for better readability. This can be done by highlighting the text and clicking on one of the "Styles" on the "Home" tab.
- Images must have alt text included if it is not already described in the text or caption. Stock photos do not need a description, only images that provide learning content to the student.
- Adding alt text in a DOCX document:
  - a. Right click on the image; choose "Format Picture."
  - b. Select Layout and Properties
  - c. Select the "Alt Text" option.
  - d. Add alt text description in the "Description" field.

- e. Note: Do not use the "Title" field, as it will not read.
- Adding alt text in a DOC document:
  - a. Right click on the image; choose "Picture."
  - b. Click on "Alt Text" tab.
  - c. Add alt text description in the "Description" field.
- Do not insert textboxes. Screen readers cannot "see" that there is text inside an inserted textbox.
- Web links should be re-named because the URL may be just a string of letters and numbers that may not make any sense to the reader. However, if the document needs to be printed, leave the URL as is AND type in the description or title.
  - a. Right click and select "Edit Hyperlink."
  - b. Change the URL name in the "Text to Display" field.
- Use true columns and tables. Do not use the Tab key to space items by eye.
- Be consistent with fonts and do not choose something too difficult to read. A san-serif font (at least 12pt) is best for on-line viewing (Ex. Arial or Verdana). Not all students using a screen reader will be visually impaired.
- Screen readers, for the most part, will not identify formatting such as bold, underline, font color, italics, etc. Some screen readers may be able to convey this information but the student must use a tedious and time consuming way of using the program to access the information.
- Microsoft Word has a built in Accessibility Checker. It is an excellent resource to assist in identifying and repairing accessibility issues. The Accessibility Checker identifies potential problems in your document, tells you why it's important to fix it, as well as provides you with solutions on how to fix it.

To run the accessibility checker:

- a. Select "File."
- b. Select "Check for Issues" button under Inspect Document.
- c. Select "Check Accessibility."
- d. A panel will open to the right listing the issues found. The issues listed are not automatically fixed and must be done manually.



# Microsoft PowerPoint

## Presentations

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PowerPoint (PPT) is a widely used method for delivering presentations, both in class and online. PPT's can be fully accessible to screen reader users if created properly. Typically, a DS student will need to bring their handouts, classroom materials and Blackboard materials to the AM staff and wait approximately 48 business hours for them to be processed. However, if a PPT is accessible from the start, the student will obtain their materials at the same time as the rest of the class. Using text copied from a well-prepared Word document can also increase the chances of having an accessible PPT. Keeping a PPT simple can help ensure accessibility as well.

Use the following suggestions to create a PPT presentation that incorporates accessibility and Universal Design:

- Use the "Slide Layout" pane instead of creating each slide by hand. This is the best way to ensure accessibility.
- Use clear and descriptive titles. Vague wording may make it difficult for a screen reader user to know what information will follow.
- Keep slide information to a minimum (approx. 6 points per slide.)
- "Speakers Notes" added to clarify visual elements can be accessed by a screen reader. However, if the PPT is saved into another document type, such as a PDF, this info will not transfer.
- Keep a high contrast between the background and text colors.
- Using at least a 12pt., san-serif font is best.
- Reviewing a PPT to make sure all text is accessible can be done by checking the Outline panel. It will show, in plain text format, the text that is on each slide. If text is visible on a slide, but not on the

outline, that indicates the text was part of an image. If the text is missing from the outline, it will not read using a screen reader. Enter alt text or type the information directly into the slide.

- Add alt text for any images that convey information. Stock photos do not need a description, only images that provide learning content to the student.
- Adding alt text to a DOCX document:
  - a. Right click on the image; choose "Format Picture."
  - b. Select Layout and Properties
  - c. Select the "Alt Text" option.
  - d. Add alt text description in the "Description" field.
  - e. Note: Do not use the "Title" field, as it will not read.
- Adding alt text to a DOC document:
  - a. Right click on the image; choose "Picture."
  - b. Click on "Alt Text" tab.
  - c. Add alt text description in the "Description" field.
- Web links
  - Web links should be re-named because the URL may be just a string of letters and numbers that may not make any sense to the reader.
  - However, if the document needs to be printed, leave the URL as is AND type in the description or title.
    - a. Right click and select "Edit Hyperlink."
    - b. Change the URL name in the "Text to Display" field.
- PowerPoint has a built in Accessibility Checker. It is an excellent resource to assist in identifying and repairing accessibility issues. The Accessibility Checker identifies potential problems in your document, tells you why it is important to fix it, as well as provides you with solutions on how to fix it.

To run the accessibility checker:

- a. Select "File."
- b. Select "Check for Issues" button under Inspect Document.
- c. Select "Check Accessibility."
- d. A panel will open to the right listing the issues found. The issues listed are not automatically fixed and must be done manually.

# Portable Document Format (PDF) Files

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PDF files are the most common file type that instructors upload to Blackboard. Additionally, when requesting digital versions of textbooks for students with disabilities, the majority of textbooks we receive from publishers are saved as PDFs. PDFs are not typically created in Adobe Acrobat. They are usually created in another program and *converted* to PDF. The majority of the PDF files on the web were probably created in Microsoft Word. Of course, the accessibility of the PDF depends on the accessibility of the original document.

Below are some basic guidelines and tips for creating PDFs that will help ensure accessibility:

- Starting with a Word document or PowerPoint presentation that is properly prepared (i.e. alt text for images, proper headings, appropriate link text, etc.) increases the chances of an accessible PDF.
- **IMPORTANT:** The file must be exported properly. Do NOT use the "Print to PDF" feature or take a snapshot of the document; it will not likely create an accessible PDF.
- If securing a PDF via password protection, be sure to select the "Enable text access for screen reader devices for the visually impaired" option.

## Exporting documents to PDF

There are two different ways, depending on if the “Adobe PDFMaker” add-in is installed—you can tell if it is installed if “Acrobat” appears as a tab in your Microsoft Office Word and PowerPoint ribbons.

- Saving with the Adobe add-in installed (best choice)
  - a. Select “File.”
  - b. Select “Save as Adobe PDF.”

OR

- a. Select “Create PDF” from the Acrobat ribbon.
- Saving without installing Acrobat add-in:
    - a. Select “File.”
    - b. Select “Save As.”
    - c. Under “Save as type,” select “PDF.”
    - d. Before saving the file, select “Options.” Ensure that the “Document structure tags for accessibility” option is selected.

Saving the file in either of these manners should create a tagged (accessible) PDF file by default.

## Editing Existing PDFs

Editing PDFs that you did not create yourself is a bit more difficult. If you can get the original Word document and re-save it as a PDF, it will save you time!

Here are some things you can do to get a sense of the document's accessibility by using features in Adobe Acrobat XI Professional:

- If the PDF is just an image of text, attempt optical character recognition (OCR). You will be able to tell if it is only an image if you cannot highlight the text within the document.

- a. Select the "Tools" tab.
  - b. Select "Text Recognition."
  - c. Select "In This File."
  - d. Select "All pages."
  - e. Select "OK."
- After the OCR process, check content by highlighting text. In most cases, if the text can be highlighted, the document will be accessible with a screen reader.
  - Check the PDF for readability:
  - Using Adobe Reader/Professional:
    - a. Click on View; Read Out Loud.
    - b. Activate Read Out Loud.
    - c. Click on View; Read Out Loud again.
    - d. Read This Page Only or Read to End of Document.
  - Using Read and Write:
    - a. Open Read and Write toolbar.
    - b. Highlight section of text on PDF.
    - c. Click on the "Play" button. A text box will appear and RW will begin reading the selection.

# Assistive Technology and Screen Readers

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Many students will use Assistive Technology during class or while testing in order to access their materials. While the proper settings depend on the student's needs, they also need to be appropriate for the situation. Screen readers are a widely used assistive technology and allow for properly formatted text to be read out loud to the student. This audio feature is what makes properly formatted documents or web pages accessible to the student.

Listed below are the assistive technology programs that CSCC offers for student use:

## JAWS (Job Access With Speech)

JAWS was developed for computer users whose vision prevents them from seeing the screen or navigating with a mouse. JAWS provides speech and braille output for a PC user. Students using JAWS would almost always require their materials in a Word document.

## Zoomtext

Zoomtext is a magnification and screen reading software for the visually impaired. The program enlarges, enhances and reads most items on the computer screen.

## Read and Write

*Read and Write* is a customizable toolbar that allows sighted users to access a screen reader. Read and Write also provides reading, writing, studying, & researching support tools and works with other common applications used by students (i.e. Adobe Reader, Word, Google Docs, IE, Chrome, Firefox, etc.). CSCC students will most often use it as a tool that converts text to speech. Students, faculty and staff can pick up a free copy of Read and Write by visiting [texthelp.com](http://texthelp.com) and signing up for a free 30-day trial. When signing up use your [csc.edu](mailto:csc.edu) email address to obtain the full version.

- Both PC and Mac versions are available.
- An instruction sheet detailing how to install and use Read and Write can be obtained by contacting the Alternate Media Department or by visiting the Disability Services website.
- Additional training with the Alternate Media staff is available on a walk-in basis from 10am-3pm daily.



# Resources

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## Adobe Accessibility

Accessing PDF Documents with Assistive Technology, A Screen Reader User's Guide:

[Screen Reader User's Guide,](#)

<http://www.images.adobe.com/content/dam/Adobe/en/accessibility/pdfs/accessing-pdf-sr.pdf>

## WebAIM- Web Accessibility in Mind

Word Docs:

[Web Aim, MS Word, http://webaim.org/techniques/word/](http://webaim.org/techniques/word/)

## PowerPoint Presentations:

[WebAIM PowerPoint, http://webaim.org/techniques/powerpoint/](http://webaim.org/techniques/powerpoint/)

## PDF:

[WebAIM PDF, http://webaim.org/techniques/acrobat/](http://webaim.org/techniques/acrobat/)