



Method	Software / Hardware	How to make it accessible
Convert MS Office to an Accessible PDF document	<ul style="list-style-type: none"> Microsoft Office 2010 & 2013 Pro. 	<ol style="list-style-type: none"> 1. Start with a well-structured word document or presentation. 2. Click the File tab and select Save as. In the Save as type field, select PDF (*.pdf.) 3. Enter a file name in the File name field. 4. Click on the Options button and make sure the Document structure tags for accessibility and Create bookmarks using Headings checkboxes are checked. 5. Click OK and Save. This will tag all of the text formatting, so page headings and lists are correctly interpreted by a screen reader.
Save your original files (PPT, Word)	<ul style="list-style-type: none"> MS Office 2011 (for Mac) 	<ul style="list-style-type: none"> • Microsoft Word & PowerPoint 2011 for the Mac cannot produce a fully accessible PDF. • Go to http://www.pcc.edu/resources/instructional-support/access/pdfs-from-mac.html for options on how to create an accessible PDF.
Run Optical Character Recognition (OCR) on scanned document	<ul style="list-style-type: none"> Adobe Acrobat Professional (Version XI Pro) 	<ol style="list-style-type: none"> 1. Open the scanned PDF file. 2. Open the Tools panel (click Tools in top right) and click Text Recognition. 3. Click In This File and the Recognize Text window will open. 4. Click the Edit button to adjust OCR settings. Select English (US) for Primary OCR Language, Searchable Image for PDF Output Style and 600 dpi for Downsample To. 5. Click OK when done.
Run Adobe Acrobat Built-in Accessibility Checker	<ul style="list-style-type: none"> Adobe Acrobat Professional (Version XI Pro) <p>All versions. No matter what you are converting to PDF, it's important to save your original files in case a student needs an alternate format.</p>	<ol style="list-style-type: none"> 1. Click the Tools tab to open the Accessibility panel on the right hand side. <ul style="list-style-type: none"> • If you don't see it, click the View menu and select Tools > Accessibility. 2. Under Accessibility, select the Full Check button. 3. The Accessibility Checker window will open. <ul style="list-style-type: none"> • Under the Report Options, check on the Create Accessibility Report. • Under the Checking Options section: <ul style="list-style-type: none"> • Category: Document and check all the items. 4. Click the Start Checking button. 5. The Accessibility Checker Report will display on the left pane.

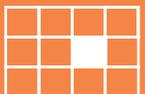
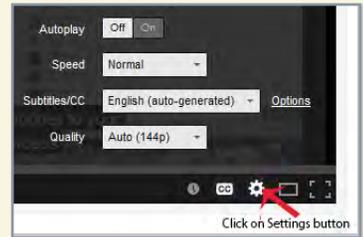




HOW TO MAKE

Accessible Video & Audio

Component	Best practices	How to make it accessible
<p>MEDIA PLAYER</p> <p>The buttons need to be properly labeled so a screen reader user can operate the player.</p>	<p>Keyboard navigation</p> <p>It is important to accessibility that students can access and operate a media player with the keyboard alone (not using a mouse).</p>	<ul style="list-style-type: none"> To test for keyboard accessibility, press the Tab key to navigate to the player, and use the Tab, Arrow keys, Enter, and Spacebar to interact with the media player buttons.
<p>CAPTIONED MEDIA</p> <p>We recommend you first search for captioned media, but you are not required to use only captioned media.</p> <p>Use the best media for your lesson. Uncaptioned media will be accommodated at the time of need.</p>	<p>Search for captioned media</p> <p>The HCC Library has a wide selection of captioned media. Contact the library for help.</p>	<p>How do I find human transcribed captioned videos on YouTube? (Search from YouTube site)</p> <ol style="list-style-type: none"> Enter your search keyword in the YouTube Search field. Add a: , CC (a comma, CC) Press Enter or click the magnifying glass icon <p>How do I find human transcribed captioned videos from Google?</p> <ol style="list-style-type: none"> Fill out the Advanced Video Search fields (http://www.google.com/advanced_video_search) that you need. Choose the “Subtitles: Closed captioned only” option. Press Enter or click the Advanced Video search button.
	<p>Make sure the YouTube video you use IS NOT Auto-generated.</p>	<p>How do I know?</p> <ul style="list-style-type: none"> Click the Settings button and check the Subtitles field. Avoid auto-generated subtitles and the Translate feature which are not usually accurate.
	<p>Create your own captioned videos</p>	<p>Add and easily edit Automatic Speech Recognition (ASR) captions in Panopto. Visit https://support.panopto.com/s/article/ASR-Generated-Captions for a tutorial.</p>





HOW TO MAKE

Accessible Complex Images

Complex images include graphs, charts, diagrams, maps, and illustrations. Below are three ways to provide alternative (alt) text-based description for complex images, when a simple alt text attribute is insufficient. Choose the best alt text method for your image types.



Use a caption

For Web Pages: Your caption must be associated with the image, so make sure to properly add a caption using the 'figcaption' html tag. (Requires HTML editing).

Note: For MS Word and PowerPoint: Right click on the image and select Add Caption.

Example Code:

```
<figure>
<figcaption><em>Caption goes here, Fig.9-Graph...</em></figcaption></figure>
```

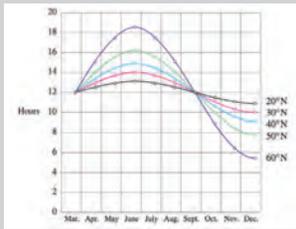


Fig.9 - Graph of the length of daylight from March through December at various latitudes. For example, at 40 degree latitude there are 12 hours of daylight in March. In October, there are 10.8 hours of daylight at 40 degree.



Describe in surrounding text

If the image is adequately described in surrounding text (including text-based data tables), so that the image is just reinforcing the text, no further description is needed necessary.

Example:

Modeling amount of daylight as a function of time of year, Figure 9 and the table beside it, show the number of hours of daylight as functions of the time of the year at several latitudes, from March through December.

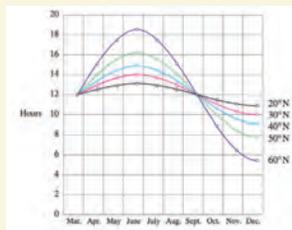


Figure 9

Month	Hours in varied latitudes				
	20°	30°	40°	50°	60°
Mar	12	12	12	12	12
Apr	12.3	13.2	13.5	14	17.5
May	12.9	13.7	14.3	15.5	17.7
Jun	13	14	14.9	16.1	18.2
Jul	12.8	13.8	14.2	15.7	17.8
Aug	12.5	12.8	13.2	14	15
Sep	12	12	12	12	12
Oct	11.6	11.2	10.8	10	9
Nov	11	10.2	9.7	8.3	6.5
Dec	10.9	10	9.1	7.9	5.7

Example of Data Table for Figure 9



Link out to a web page with a longer description

If the image cannot be described using methods A or B, use the 'longdesc' attribute (requires HTML editing).

Example code:

```

```

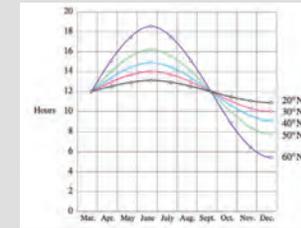


Figure 9

```
<html>
<p>Modeling amount of daylight as a function of time of year Figure 9 shows graphs of the number of hours of daylight...</p>
</html>
```

fig9-longdesc.html





HOW TO MAKE

Accessible Complex Images

Resources for image description

- [NCAM: Guidelines for Describing STEM \(Science Technology Engineering and Math\) images](http://goo.gl/TBT01Z) (<http://goo.gl/TBT01Z>)
- [Art Beyond Sight: How Do We Access Meaning in Art?](http://goo.gl/dAXZOx) (Describing art images in alt text) - (<http://goo.gl/dAXZOx>)
- [Video: How to Describe Complex Images for Accessibility \(From Diagram Center's Webinars\)](https://www.youtube.com/watch?v=oSdz6KZpLjs) <https://www.youtube.com/watch?v=oSdz6KZpLjs>
- [Diagram Center: Accessible Image Sample Book](http://goo.gl/N0arvW) <http://goo.gl/N0arvW>

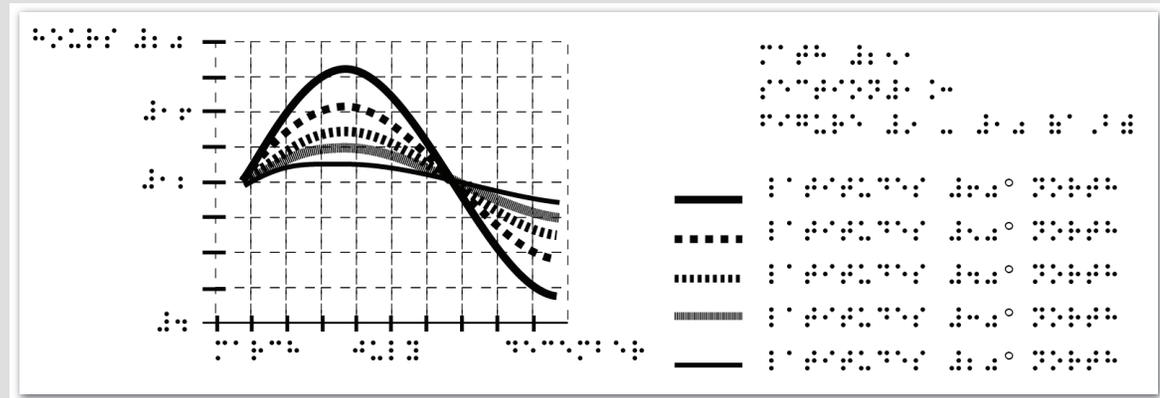
Tactile representations

Sometimes touching a model or a tactile graphic is the best way to describe something.

Tactile graphics

Tactile graphics have different sized raised dots to show variation in graphs, charts and maps. Contact Disability Support Services for information.

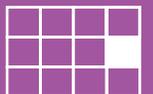
Example:



A 3D model of chest anatomy

Indicate if a model is available

If you know where a 3D model of the image is available, indicate that in your image caption or on the same page as the image.





Component	Math tools	Best practice
Math & science equations, formulas and notation	<ul style="list-style-type: none"> • MathML 	MathML stands for 'Math Markup Language' which is the web standard for accessible online math and science notation, equations and formulas. Typically, a user does not create MathML, but instead uses a conversion process to output MathML.
		We recommend that as much of the online class as possible be conducted within D2L. All output from D2L's equation editor is stored as MathML, which is screen reader-accessible.
	<ul style="list-style-type: none"> • Word documents 	MathType is an equation editor created by Design Science that is compatible with MS Word for Windows and Mac. Together, MS Word with MathType can be exported as MathML or it can be converted to braille. (Save your original files.) DO NOT use Microsoft's equation editor.
		Math IS NOT accessible in PDF. Save the original file with the original MathType or LaTeX equations. Disability Services will ask for your original files when there is an accommodation need.
	<ul style="list-style-type: none"> • PowerPoints 	For MS PowerPoint 2013, use the MathType 6.9 plugin or later to create math and science equations, formulas and notations. DO NOT use Microsoft's equation editor. If you convert to a PDF or export to a webpage, save your original MS PowerPoint files which Disability Support Services may ask for.
		To make graphs accessible, do your best to describe them using alternative text, long descriptions, or captions. We can supplement with tactile graphics if necessary.
	<ul style="list-style-type: none"> • LaTeX 	LaTeX is a mark-up language. Converting LaTeX documents into an accessible format is usually straightforward. Keep LaTeX original files if you convert to other formats.
	<ul style="list-style-type: none"> • WeBWorkK 	WeBWorkK is an accessible and free online homework platform for math and sciences courses.
	<ul style="list-style-type: none"> • LibreOffice 	LibreOffice (with its native equation editor) exports easily to web pages that contain MathML.

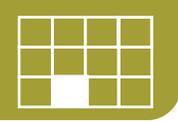




LINKING TO

Third Party Online Materials

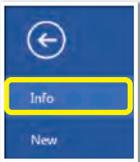
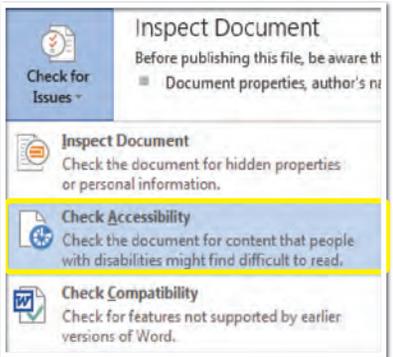
Component	Best practice
<p>How accessible are their digital materials?</p>	<ul style="list-style-type: none"> • Are the videos captioned and audio recordings transcribed? There should be transcripts for audio recordings and captions or subtitles for video. If they aren't available, ask the publishing representative when they plan to have them. If they have no plans, ask them to give HCC written permission to transcribe or caption the media. • Are images described in alternative text? PowerPoint slides from publishers often have images without any alt text. Ask your publishers if their images have alt text. • Can all of the text that is displayed on the screen be read aloud by text-to-speech software? Screen readers (assistive technology used by people who are blind) read real text. They cannot read images of text or text embedded in Flash animations/movies/simulations. • How accessible are the E-books? Are the images described? Are embedded objects like videos keyboard accessible and captioned? Is the E-reader keyboard and screen reader accessible? • Can all interactivity (media players, quizzes, flashcards, etc.) function using only the keyboard (no mouse)? People who are blind or have upper mobility disabilities cannot use a mouse. They use the keyboard to navigate and interact on the Web. Any interactive elements on a publisher's website or DVD must be operable by keyboard alone if they are used in your course. • Is there any documentation available that confirms accessibility or usability testing results (e.g., VPAT or White Paper)? A VPAT (Voluntary Product Accessibility Template) is used by many organizations to report the level of accessibility of software products. • Is your multimedia (Adobe) Flash or (Oracle) Java-based? Can your materials be watched on mobile devices? Content created in Flash or Java can be inaccessible and may not run on mobile devices and tablets, which are becoming more prevalent. • What are the computer requirements for using their materials? Will the materials work on mobile devices? Distance Learning informs online students about the computer requirements for taking an online course in the Distance Education Orientation for students. If your course requirements are different, make them known in the course syllabus.
<p>Open Educational Resources (OER)</p>	<ul style="list-style-type: none"> • OERs have the same accessibility requirements as all other digital materials. If they are not accessible, they can sometimes be retrofitted to be accessible. That is not possible if the materials reside on a publisher's server. Contact the Fletcher Faculty Development Center for help inspecting materials for accessibility.





AUTOMATED

Accessibility Checkers

Software	Tools	How to check
MS Office 2010 & 2013 Windows (Word, PowerPoint)	<ul style="list-style-type: none"> A built-in accessibility checker <p>(Note: The accessibility checker checks only .docx and .pptx files)</p>	<ol style="list-style-type: none"> Go to the File tab. Select Info from the sidebar menu. Click on the Check for Issues button. Select Check Accessibility from the drop-down list. <p>The Accessibility Checker panel will open to the right of the document. The accessibility checker provides you with a list of errors, warnings & tips. When you click on an error or warning, instructions on how to fix it appear below in “Additional Information”.</p>  
PDF (Adobe Acrobat Pro DC)	<ul style="list-style-type: none"> A built-in accessibility checker (View > Tools > Accessibility) 	<ol style="list-style-type: none"> Click the Tools tab to open the Accessibility Tool panel on the right. (If you don't see it, click the View menu and select Tools > Accessibility). All boxes should be checked. Click Start Checking. Expand items in the side panel to review accessibility issues. 
D2L & Web Pages	<ul style="list-style-type: none"> A browser-based checker, WebAIM WAVE accessibility add-on to the Chrome or Firefox browser 	 <ol style="list-style-type: none"> Download & Install the WAVE toolbar (http://wave.webaim.org/toolbar/) Open the D2L page in its own window by clicking on the Open in a new window icon. Right-click on the page in the new window, and select WAVE, then choose “Errors, Features, and Alerts” to see what accessibility errors you have on the page. Error icons in green, red, yellow and blue will appear on the page. If you hover over an error icon, more information on the error will appear. Return to the original D2L page, and open the D2L editor to repair the problems you found. 

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Ally checks course accessibility. Visit D2L Instructor Resources for guides.



Training & Support

Online Training & Resources

- online.hagerstowncc.edu>Instructor Resources
- hagerstowncc.libguides.com/fletcher
- www.pcc.edu/access

Fletcher Faculty Development Center

Linda Cornwell, Coordinator
Phone: 240-500-2230
Email: ljcornwell@hagerstowncc.edu

D2L Support

Brenda Huffman, Learning Management System Specialist
Phone: 240-500-2378
Email: bkhuffman@hagerstowncc.edu

Course Design Support

Leia Wood, Instructional Designer
Phone: 240-500-2727
Email: ljwood@hagerstowncc.edu

Disability Support Services

Jaime Bachtell, Manager, Disability Support Services & Cohort Programs
Phone: 240-500-2273
Email: jlbachtell@hagerstowncc.edu

Testing Tools

Chrome & Firefox: WAVE Toolbar

<http://wave.webaim.org/extension/>

MS Word

Built-in 2010, 2013, 2016 (PC)

MS PPT

Built-in 2010, 2013, 2016 (PC)

PDF

Built-in Adobe Acrobat Pro

Color Contrast Analyzer

<http://www.paciellogroup.com/resources/contrastAnalyser>



This resource was adapted from a guide
developed by Portland Community College:
pcc.edu/access

*The production of this guide was supported by a grant from
the Alice Virginia and David W. Fletcher Foundation*

