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What is Web Accessibility?

Web accessibility is intended to ensure the web works for the widest possible audience. This means that any item, tool, or web element can be accessed by everyone, including those with differing abilities that may require additional elements to ensure access.

Perspective through numbers

A significant portion of the United States population has some form of a disability.

Prevalence of disability by age, from the American Community Survey 5-year estimate, 2011-2015			
Age Group	Estimated Total Number	Estimated with Disability	Estimated Percent with Disability
All Ages	311,516,332	38,601,898	12.4%
Under 5 years	53,637,150	159,879	0.8%
5 to 17 years	72,307,218	2,853,439	5.3%
18 to 35 years	122,348,530	4,218,974	5.8%
35 to 64 years	24,857,845	15,766,614	12.9%
65 to 74 years	18,455,769	6,330,993	25.5%
75 years and over	53,637,150	9,271,999	50.2%

Among community colleges, approximately 12% of students indicate some form of disability through the National Postsecondary Student Aid Study (2007-2008 & 2011-2012) from the US Department of Education. (Source: AACU Datapoints, Diverse disabilities, October 2015)

Students will not always identify

It is important to note that not all students with a disability make use of the Center for Disability Services. As a direct result, it is likely that an instructor will have a student with different abilities in their class but will not be given any awareness of it through official processes.

Additionally, in regards to online learning, many institutions and students believe that online courses should be built so that a student would not need to identify with a disability. In fact, many students with a disability will take an online course as they believe it will let them be seen for their educational abilities rather than for their personal disabilities. As stated in a Northwestern University School of Professional Studies page, [Why is web accessibility important?](#),

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“They provide greater flexibility, allowing students to do their work when they have the most ability, rather than when the class is scheduled. They are easier to access for students with mobility issues. And they allow students to maintain their privacy if they do not want to report their disability.”

Making Microsoft PowerPoint Presentations Accessible

Accessibility checker

Microsoft PowerPoint (2016 version for Windows and Mac) has a built-in accessibility checker. The tool is designed to aid an individual in determining a presentation's accessibility issues. It does not cover all accessibility topics however, it does cover most of them and can be a time saver.

The tool will scan a presentation and present a series of errors and warnings. Any issue can be reviewed by clicking on it, allowing the user to be presented with information on why and how to fix.

The accessibility checker can be accessed through the ribbon by going to **File -> Check for Issues -> Check Accessibility**.

- - Resource: [Portland Community College - PowerPoint Accessibility](#)
 - Resource: [Microsoft - Use the Accessibility Checker on your Windows desktop to find accessibility issues](#)
 - Note: This also works for the Mac version of PowerPoint 2016

Titles & headers

Presentations should always begin with an initial title slide, and each slide should have a unique header or slide title. These are often the first slide shown when creating a completely new PowerPoint presentation. These can also be added by generating a **New Slide** with a **Title Slide** layout.

Titles on individual slides help your documents stand out, allowing a reader to quickly scan it for desired content. These titles should always be unique as it aids in individuals knowing where they are located within a presentation. Slide titles are a default field on any of the standard PowerPoint layouts.

- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)

Font size and selection

In typical presentation style, do not use a font size below 18 points in a presentation or it may become unreadable by most of the room. Typically use a font size of 22 points or larger, but 18 may be possible in smaller rooms or on larger screens. Font sizes can be

adjusted on any slide in a presentation by clicking on it, then **Home** on the ribbon, followed by adjusting the font size within the **Font** section.

Additionally, use fonts that are considered to be sans-serif fonts. Examples of such fonts are Arial, Calibri, Franklin Gothic Book, Helvetica, and Segoe UI.

- Resource: [Microsoft - Design slides for people with dyslexia \(Video, Transcript, Try it!\)](#)
- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)

Slide layout

When creating a presentation, make use of the pre-made slide layouts available in PowerPoint. This helps to ensure that each slide is set up in a readable fashion for all individuals, especially those using screen reading or narration technologies.

- Resource: [Microsoft - Create more accessible slides \(Video, Transcript, Try it!\)](#)
- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)

Reading order

As elements are added or modified on a slide, the reading order of the slide may be disrupted. This typically occurs if an item is added then moved, or if content is added in a non-linear fashion. In PowerPoint, it is possible to review a slide's reading order by accessing **Home** on the ribbon, followed by **Arrange** in the Drawing section, then **Selection Pane**. This will reveal the Selection Pane, which contains functions to adjust the reading order of a slide.

- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)
- Resource: [Portland Community College - PowerPoint Accessibility](#)

Images and charts

Images and charts need descriptive alternative text (alt text) to ensure that a non-visual method of representing an image is available for those who need it. PowerPoint provides a method of creating an alt text title and description. For an image, select an image chart within a document, right-click, then select **Format Picture**. The Format Picture pane will appear. Toggle to the Layout & Properties section, then select Alt Text. When working with a chart, right-click in a blank area of the cart, then select Format Chart Area. The Format Chart Area pane will appear. Like with images, toggle to the Layout and Properties section, then select Alt Text.

Additionally, charts should have text large enough to be seen from a distance, as well as appropriate visible colors.

- Resource: [Microsoft - Improve image accessibility in PowerPoint \(Video, Transcript, Try it!\)](#)
- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)
- Resource: [Portland Community College - PowerPoint Accessibility](#)

Lists

Using lists in a presentation help to give it structure. Ordered, or numbered, lists are typically used for processes like steps of a task, a series of assignments to complete, or anything that follows a sequence. Unordered lists, like bullet points, are used for items without a sequence. Most PowerPoints follow a text structure incorporating an unordered list on many slides.

- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)
- Resource: [Portland Community College - PowerPoint Accessibility](#)

Links

Links to any external website should be descriptive for a presentation read on a computer or mobile device. This allows an individual to know the purpose of the link before actually accessing it. A fully visible link is needed for a printed presentation, preferably with the context of its purpose.

- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)
- Resource: [Portland Community College - PowerPoint Accessibility](#)

Tables

Tables are best used for data purposes and not document layout. Data tables allow for data to be displayed as a grid or matrix, or simply delineate data by relevant rows and columns.

- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)
- Resource: [Portland Community College - PowerPoint Accessibility](#)

Color contrast

Color selection should be considered when creating a presentation. A high level of contrast between text color and slide background is helpful for everyone. This similarly can effect charts, as chart elements may not have a high level of contrast. The general rule of thumb: If it's hard to read for the person writing it, then it's hard to read for the person reading it.

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A general rule of thumb: If it's hard to read for the person writing it, then it's hard to read for the person reading it.

- Resource: [Microsoft - Use more accessible colors and styles in slides \(Video, Transcript, Try it!\)](#)
- Resource: [Microsoft - Make your PowerPoint presentations accessible](#)
- Resource: [Portland Community College - PowerPoint Accessibility](#)

Additional resources

- [WebAIM - Microsoft PowerPoint - PowerPoint Accessibility](#)
- [Portland Community College - PowerPoint Accessibility](#)
- [NCDAE - Creating Accessible Microsoft PowerPoint 2013 Presentations \(Windows\)](#)
- [Microsoft - Accessibility support for PowerPoint](#)
- [Microsoft - Create more accessible slides in PowerPoint \(Video training\)](#)

Microsoft PowerPoint– Accessibility Video Training

Create more accessible slides

Please visit [Create more accessible slides](#) on Microsoft’s website for video and transcript.

Improve image accessibility in PowerPoint

Please visit [Improve image accessibility in PowerPoint](#) on Microsoft’s website for video and transcript.

Use more accessible colors and styles in slides

Please visit [Use more accessible colors and styles in slides](#) on Microsoft’s website for video and transcript.

Design slides for people with dyslexia

Please visit [Design slides for people with dyslexia](#) on Microsoft’s website for video and transcript.

Save a presentation in a different format

Please visit [Save a presentation in a different format](#) on Microsoft’s website for video and transcript.

Tools to Check Color Contrast

It's important to always consider color contrast when creating a document, presentation, or another resource. When text is hard to read, individuals often bypass sections of a resource or simply become unable to understand the resource itself. Always consider that many individuals may have visual difficulties including color blindness and low vision, causing possible difficulties in seeing a resource.

As a general rule of thumb, consider that if it's hard to view for the person creating the resource, then it's hard to view for someone viewing the resource.

Color contrast standards

Under the [Web Content Accessibility Guidelines 2.0, Level AA](#), which apply to the web documents, there are two color ratios to know:

- A ratio of 4.5 to 1 for normal sized text, sized at less than 14 points. This rule also is applicable to text that is less than 18 points and has no bold style applied.
- A ratio of 3 to 1 for large-sized text, sized at 18 points or more. Text that is 14 points and bolded is also considered to be large sized with the 3:1 ratio being applicable.

For example, text that is **red on blue** has a contrast ratio of 1.5:1, and would not be viewable to many people. Adjusting it to **yellow on blue** instead holds a ratio of 5.8:1 and is viewable to most people.

Tools to check color contrast

There are several tools that can easily help in checking color contrast for documents, presentations, images, the web, and other resources.

- [The Colour Contrast Analyser](#), by the Paciello Group, is a free tool for Windows and macOS to aid in determining proper color ratios. The tool has multiple aspects, including selecting a foreground and background color as a quick check, plus a tool to analyze a portion of the screen against different visual difficulties.
- [The Color Contrast Analyzer](#), by NC State University, is an extension for Google Chrome. It covers many of the same items as the Analyser by the Paciello Group but focuses specifically on the web.
- The Chromatic Vision Simulator, by Kazunori Asada, is a free mobile app for [Android](#) and [iOS](#). It uses the camera of a mobile device to simulate various color vision deficiencies. This allows for looking at items in the world at large and having an example of how color is perceived by different people.

Accessible Math for Documents and Presentations

Creating accessible mathematical and scientific material can be difficult without proper software. Math tools built into Microsoft Office products, including Word and PowerPoint, do not follow an accessible format. This necessitates a different option to create mathematical and scientific writings.

MathML to the rescue

MathML is a web markup language approved by the World Wide Web Consortium (W3C), which also creates all standards of web content including how web pages are actually coded. MathML is designed to be accessible to screen reader devices, allowing such users to read mathematical/scientific material without difficulty.

Creating MathML content in Microsoft Office

Microsoft Office's own equation editor does not produce MathML content, thus preventing certain users from being able to read any mathematical/scientific material. It is necessary to use an outside tool to create compatible materials.

One such program, [MathType](#), works as a plug-in to Microsoft Office applications. The tool creates a new entry on the ribbon, allowing a user to create mathematical notations in MathType's interface. The material added to a document is then readable as standard mathematical & scientific notations, as though it were written on paper. The same content includes MathML code, allowing a user with a screen reader to read the content.

[MathType](#) is available at the college. Please contact the Help Desk at (708) 608-4357 for more information.