# HOW TO MAKE AN ACCESSIBLE DOCUMENT

This guide will show you step-by-step instructions and best practices to make your documents accessible. When your documents are accessible, you unlock your content to everyone and people with differing abilities can read your content and work with your files.

Key features to follow are:

- Proper heading structure.
- Write in simple sentences and plain language.
- Use plain/common font and text size of at least 12-point.
- Proper list formatting for numbered or bullet lists.
- Add a detailed description of important images.
- Use of Colors.
- Avoid Flashing or Flickering Content.
- Hyperlinks
- Use Microsoft Word's built-in accessibility checker.
- Accessible PDF.

1. PROPER HEADING STRUCTURE

The use of appropriate heading structure for your documents means using a hierarchy of headings (For example Heading 1, Heading 2, Heading 3, etc.). This allows the screen readers to identify headings for the listener, and also helps with the navigation of the document using its headings.
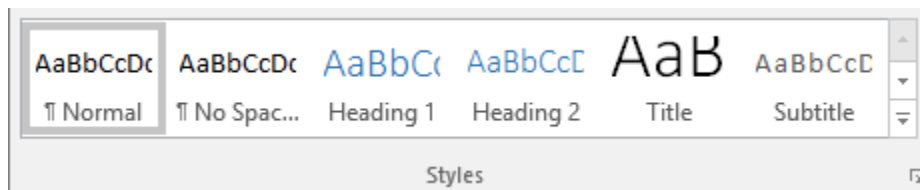
The simplest way to add headings in Microsoft Word is by using the styles section.

- First, select the text you want to use as a heading.
- Then, on the home tab, move the pointer over different headings in the Styles gallery. Notice as you pause over each style, your text will change so you can see how it will look in your document. Click the heading style you want to use.

2. WRITE IN SIMPLE SENTENCES AND PLAIN LANGUAGE

It is important to use clear and simple language to communicate effectively. "Plain language" is a good way to organize and display information, so it is easy to follow. This means that the listener or reader can easily understand the first time they hear or read it. For example, using conversational style with everyday words and active voice.

Other points to keep in mind while writing with "plain language" are:

- Use short sentences, like 15 to 20 words per sentence.
- Make sure that longer sentences do not have more than three items of information.
- Use 'active' verbs mainly. For example, "The teacher always answers the students' questions" (active), rather than " The students' questions are always answered by the teacher" (passive).
- Try avoiding acronyms and lingos. If this cannot be avoided or there is a need to use uncommon terms, then include an explanation of them when they are first used.
- Use bullet points to break complex information easily.

USEFUL RESOURCES.

For more "plain language" advice visit the Plain English Campaign website. (http://www.plainenglish.co.uk/.)

3. PRESENTATION AND LAYOUT

To help with the reading and comprehension of information use plain/common fonts and point sizes for the presentation and layout of the documents.

- FONTS

The recommended fonts are:

- Arial
- Calibri
- Helvetica
- Tahoma
- Time New Roman
- Verdana

IMPORTANT: LIGHT OR THIN FONTS SHOULD BE AVOIDED.

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2 | P a g e

- POINT SIZE

A text size of 12-point or higher will benefit the most users. It is recommended to make large print (like 16-point or higher) versions of documents available on request. Also, keep in mind that point sizes can vary between fonts.

For example:

- This is 12-point text Arial
- This is 12-point text Calibri
- This is 12-point text Helvetica
- This is 12-point text Times New Roman
- This is 12-point text Verdana

- OTHER CONSIDERATIONS

Other recommendations in making more accessible content are:

- Avoid using capitals letters for continuous text, lowercases are easier to read.
- High contrast makes documents more legible. Alternative color contrasts like including black text on yellow background can be beneficial for the readers.
- Avoid using color-coding to convey information or meaning. If this format cannot be done, then make sure that each color-coding word is accompanied by its meaning.
- The use of white space makes information easier to read. Make sure to leave enough space between paragraphs, and also, try increasing space between lines.
- Large and **bold** font is useful for highlighting and emphasizing the information.
- Numbers from one to nine are easier to read in the normal text if they are written in words. Any numbers after 10 should be written as numerals.
- Align the text to the left of the page. This makes it easier to find the start and end of each line and ensures an even gap between words.
- Do not hyphenate words at the end of lines.

4. TABLES

Tables in Microsoft Word need to have a simple structure and also give information to the column header. For screen reader users, it is useful to add a short descriptive caption for each table. Microsoft Word's tables must not contain:
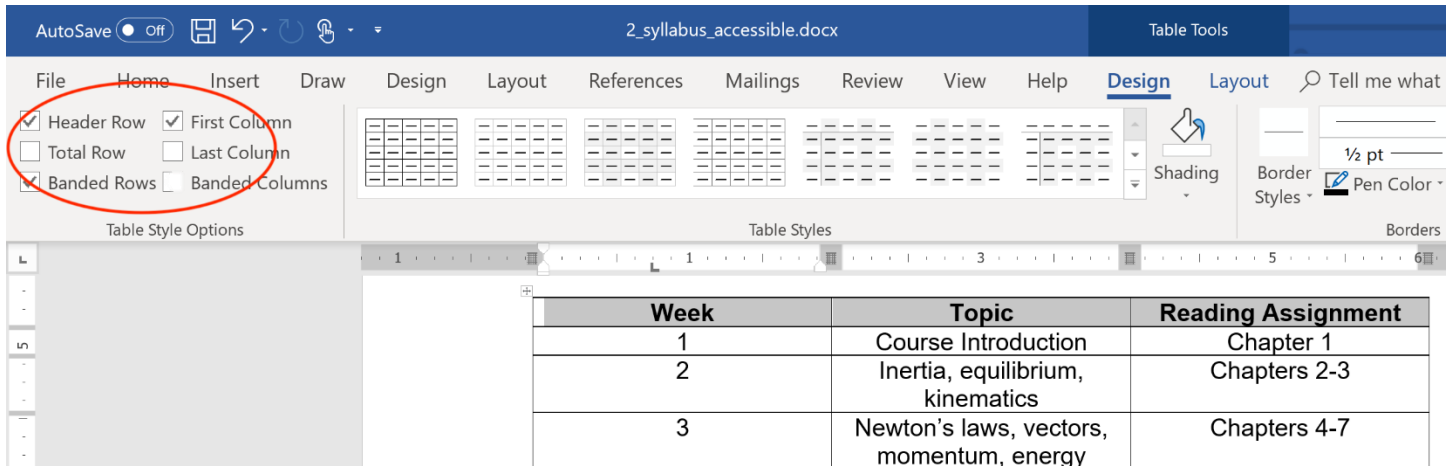
- Split cells
- merged cells
- Completed blank rows or columns
- Nested tables

USEFUL RESOURCES.

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Ally Resource Library

For more information visit the Microsoft Word Support Website. (https://support.microsoft.com/en-us/office/video-create-accessible-tables-in-word-cb464015-59dc-46a0-ac01-6217c62210e5).

| Week	Topic	Reading Assignment
1	Course Introduction	Chapter 1
2	Inertia, equilibrium, kinematics	Chapters 2-3
3	Newton's laws, vectors, momentum, energy	Chapters 4-7

5. LISTS

Using numbered or bulleted lists in documents can be a very useful way of breaking up complex information by making it easier to read and follow.

For the listing features to work with most screen reader programs/software, the author must create the list using the built-in list formatting within Microsoft Word. Also, while using a screen reader, the list itself can convey important information, for example:

- Where the list starts and finish?
- How many items are on the list?
- What list item the user is on?
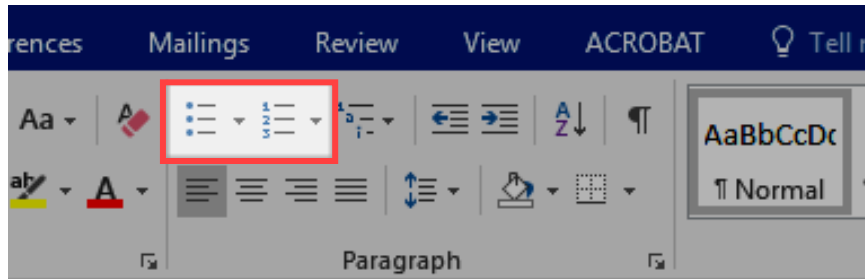
6. IMAGES

When using images in a document to help with the visualization of concepts, take into consideration their placement on the page. If an image is placed randomly on the page this can interfere with the flow of the text and make it harder to follow the context. The text should not be placed around the images. It is best to place the images at the end of paragraphs and allow sufficient space between them. Also, avoid placing any text over any background images.

For images to be readable with screen readers it needs to have alternative text. This can be done by using the "Edit Alt Text" function which can be found by right-clicking on the images or in the "Picture Format" tab (it will show after left-clicking on the image) in the accessibility section. When writing the images' alt text take into consideration what is the main idea of the image. This will help with the description of it so that all of the information in the document will be consistent. Do not include words like "image of" in the description since the screen reader will announce that it is an image. Try to limit the alt text to at least 150 characters. If the image needs a longer description, it is best to include it in the paragraph related to the image. And last, if the function of the image is just to decorate the page, it is best to mark it as such in the "Alt Text" option so that the screen reader can ignore it.
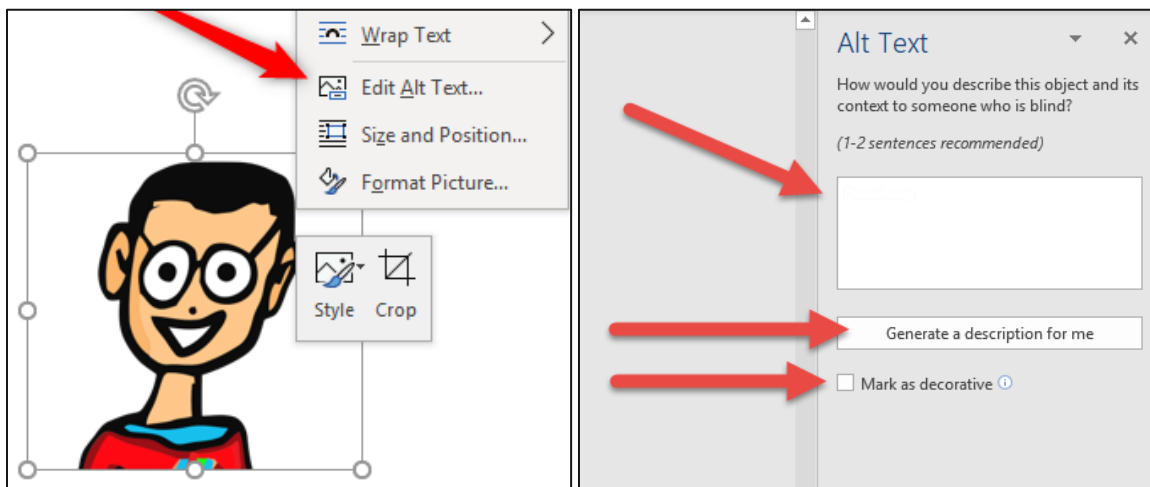
USEFUL RESOURCES.

Benetech provides useful free tutorials for writing alternative texts. The website is Poet Training Tool (http://diagramcenter.org/poet.html).

7. USE OF COLORS

There are two accessibility issues related to color options.

- Avoid using color to communicate information. Since people perceive color in different ways, it is important to avoid using color alone to communicate information. For example, if a link text is blue, it should be also underlined so users who are unable to perceive the color differences and distinguish between regular text and links.

- Choose colors with adequate contrast. Some users have difficulty perceiving texts if there is too little contrast between the words and the background. The Web Content Accessibility Guidelines 2.0 (https://www.w3.org/TR/WCAG20/) require the color combination to meet defined contrast ratios. To meet the guidelines at level AA, text or image of text must have a contrast ratio of least 4.5:1 (or 3:1 for large text) to meet the guidelines at stricter Level AAA, by contrast, the ratio must be at least 7:1 (4.5:1 for large text).

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USEFUL RESOURCES.

Several free tools have been developed that makes it easy to check for color combination for WCAG 2.0 compliance:

- Contrast Checker – Web AIM (https://webaim.org/resources/contrastchecker/)
- Designing for Web Accessibility (https://www.w3.org/WAI/tips/designing/)

8. AVOID FLASHING OR FLICKERING CONTENT

Content that flashes or flickers can trigger seizures in susceptible individuals. Therefore, this type of content should be avoided. It not only can cause seizures, but it's also likely to be annoying or distracting for users in general. If it cannot be avoided, test the content to be sure it doesn't flash or flickers at a safe level. The Web Content Accessibility Guidelines 2.0 included specific technical requirements for determining whether the content flashes or flickers at an unsafe level. In general, if content flashes more than three times per second, it is unsafe.

USEFUL RESOURCES.

The W3C provides a more precise technical formula for calculating general flash and red flash thresholds (https://www.w3.org/TR/UNDERSTANDING-WCAG20/seizure-does-not-violate.html).

9. HYPERLINKS

To add a hyperlink effectively in Microsoft Word, start by right-clicking on the word or group of words and selecting the "Link" function. Another method is to do the selection and then go to the Insert tab, click on "Links" to choose the weblink to add to the document. If you type a web address and hit space or return, Microsoft Word will automatically format it as a link.

Keep in mind that the hyperlink has to make sense as standalone information. Meaning it needs to represent clear and accurate information about what it links to. For instance, by including the full title of the destination page and then using those groups of words to insert the hyperlink. It can also be useful to provide the full URL in brackets after the description is done so that it is available if the document is printed or if the users wish to cut and paste it to a web browser.
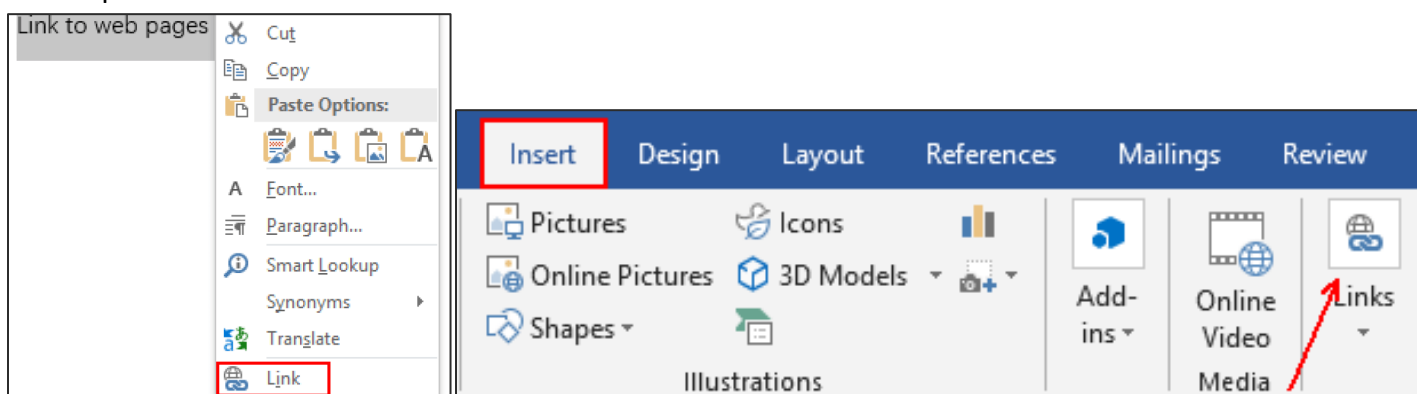
10. ACCESSIBILITY CHECKER

You can easily check the accessibility of your document by using the Microsoft Word building checker. To find the "Accessibility Checker" go to the "Review" tab and you can click it in the accessibility section. This will highlight any accessibility-related problems within your document. This section will describe why you should fix them and also give you guidance on how to do so. You can also have the "accessibility checker" check your work while you are writing by clicking the "Keep accessibility checker running while working" checkbox that is available in this section.

11. CONVERTING TO PDF

To create an accessible PDF from Microsoft Word first make sure that the document is already accessible. Starting with an accessible document ensures that when exported to a PDF will include the accessibility features like headings structure, alternate text for images, appropriate lists, and table layout.

DO NOT PRINT TO PDF, THIS METHOD OF CREATING A PDF DOES NOT PRESERVE THE DOCUMENT'S ACCESSIBILITY FEATURES.

Here are the steps to convert an accessible Microsoft Word into a PDF:

- First, click on "File", then on "Save As...", and select PDF from the choices provided. By default, this produces a PDF that preserves the document's accessibility features.
- When saving, select "Options" and be sure that "Document structure tags for accessibility" is checked.

- If you select "Minimize Size" to reduce the size of your PDF, be sure to repeat the preceding step, as this option might uncheck the "Document structure tags for accessibility" checkbox.
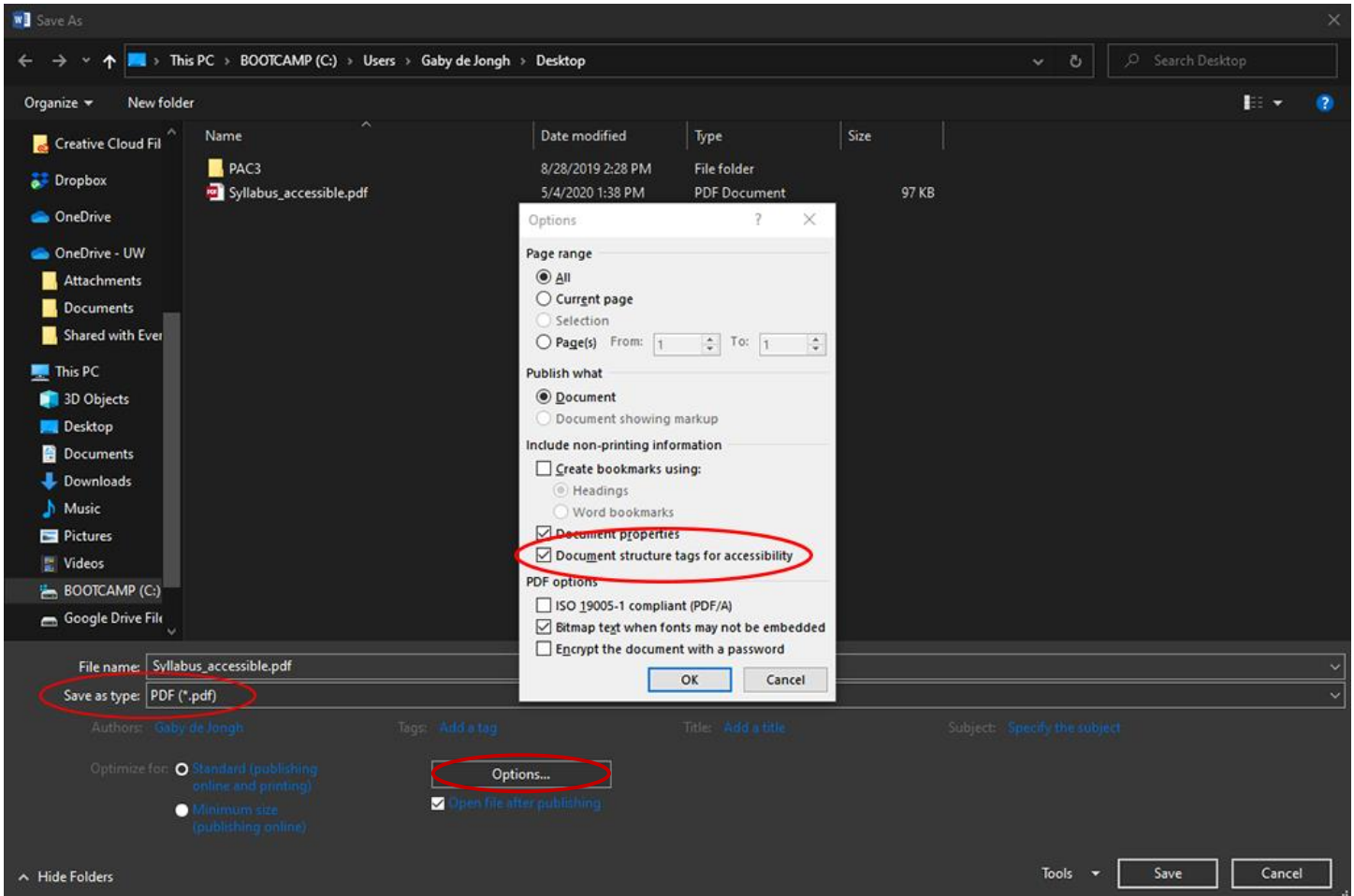
USEFUL RESOURCES.

For more information about PDF accessibility, visit the Adobe website (https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html).

This website provides resources on making PDFs accessible, covering different versions of their PDF creator software.