

# Creating Accessible Documents

When creating content, there are a few basic steps that should be followed in order to assure your content is accessible. It is recommended that documents are started in Microsoft Word and then appropriately exported into PDF. A checklist is provided, with detailed instructions for each step outlined below.

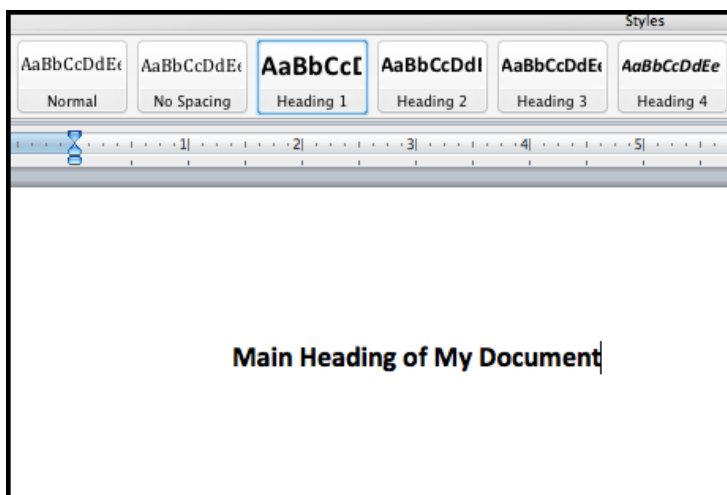
To see why creating accessible documents is important, check out this 3 minute video of a screen reader going through accessible and inaccessible Word Documents: <https://www.youtube.com/watch?v=D8XFkGMF0sw>. And here is an example of a screen reader going through an inaccessible PDF: <https://www.youtube.com/watch?v=GaNwnsT4B5s>.

## Checklist when starting in Word

- Added built-in Headings to document and did not skip numbers (e.g. jumping from Heading 1 to Heading 3)
- Used built-in List options (e.g. bullets or numbers)
- Added Alt Text for all images
- Identified the document language
- Defined Table Headers and simplified Tables as much as possible
- (optional) Exported to PDF while preserving accessibility

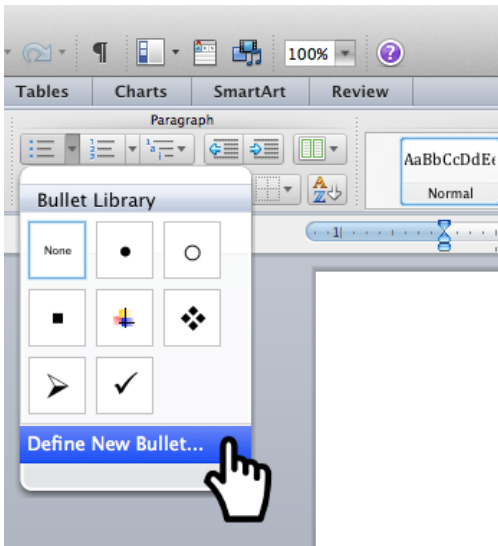
### Use headings

Use the built-in Heading styles like “Heading 1” and “Heading 2”, available under *Styles* in the *Home* tab of the Ribbon in Office versions 2010 and higher. Making text larger and bold does not make it a heading. Try not to skip headings. After a heading has been selected, you are able to edit the font, size and other attributes if you do not like the built-in look.



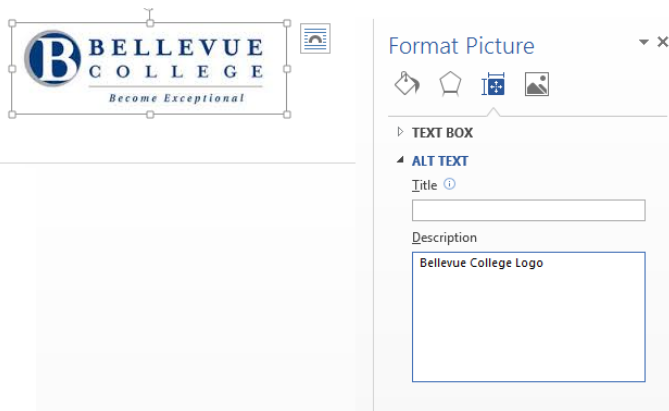
### Use lists

Use the built-in options like bullets or numbers, available under the *Paragraph* in the *Home* tab of the Ribbon in Office versions 2010 and higher. Without using these, a list is not really a list to those using an outside program to read the document. Both numbered and bulleted lists are customizable. Just click on the arrow adjacent to the desired list button and select “Define New Bullet/Number Format” for a different design if you do not like the built-in options.



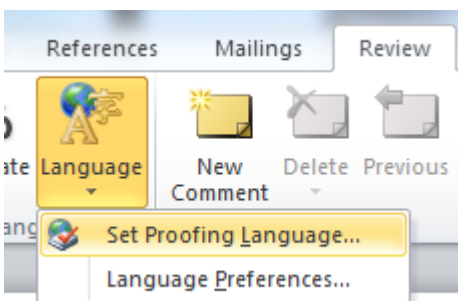
### Add alternate text for Images

In most versions of Word, you can enter alternate text by right clicking an image and selecting *Format Picture*. Within the *Format Picture* dialog, select *Layout and Properties*, then select *Alt Text*. To enter alt text in Office 2007, right click an image and select *Size and Positioning*. Then select *Alt Text*. It's recommended to provide the description of the picture in the 'Description' field; you should only enter a 'Title' if your 'Description' field text is long and detailed.

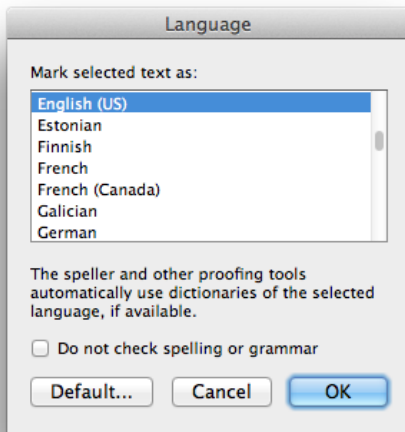


### Identify document language

In Office 2010 for PCs, within the *Review* tab, select the *Language* button, then select "Set Proofing Language".



In Office 2011 for Macs, select *Tools > Language* from the application menu to define the default language. To define a different language for part of the document, select each foreign language individually, then select *Tools > Language* to define the language for each.



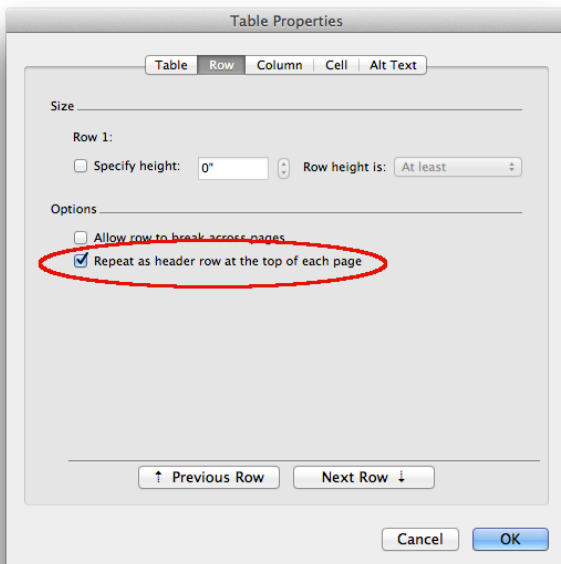
**NOTE:** Currently language settings only effect accessibility of the Word document itself. They do **not** survive when exported to PDF. If PDF is the final format in which you intend to distribute your document, you will need to define language in the PDF directly using Adobe Acrobat Pro.

### Use tables wisely

Word has limitations when it comes to making tables accessible. Tables can be very difficult for screen reader users to understand unless they include markup that explicitly defines the relationships between all the parts (e.g., headers and data cells). For a simple table with one row of column headers and no nested rows or columns, Word is up to the task. However, more complex tables can only be made accessible within HTML or Adobe PDF (accessible table markup can be added to the PDF using Adobe Acrobat Pro).

Often complex tables can be simplified by breaking them into multiple simple tables with a heading above each.

For simple tables, the only step necessary for accessibility is to identify which row contains the column headers. To do this in Word, select that row (Table > Select > Row), then right click the row and select "Table Properties". This brings up the *Table Properties* dialog. In this dialog, click the *Row* tab, and check the checkbox that says "Repeat as header row at the top of each page".



Class Schedule

Week	Topic	Reading Assignment
1	Course Introduction	Chapter 1
2	Leads equilibrium	Chapter 2

## When exporting to PDF, understand how to preserve accessibility

There are right ways and wrong ways to export to PDF. The steps required depends on which version of Microsoft Word you're using. **Do not print to PDF.** This method of creating a PDF does not preserve the document's accessibility features. The correct method of exporting to PDF depends on which version of Microsoft Office you're using.

### *Word 2013 and Word 2010 (Windows)*

Go to File > "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. This is checked by default, but could become unchecked under certain circumstances.

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.

### *Word 2007 and Word 2003 (Windows)*

Prior to Office 2010, exporting to an accessible PDF requires a plug-in. The Adobe PDF Maker Plugin ships with Adobe Acrobat Pro, and the plugin is installed into Office and appears as an Adobe toolbar and menu item. With this plug-in installed, use the Adobe toolbar or the Adobe menu item to Save As PDF. By default this produces a PDF that preserves the document's accessibility features.

### *Word for Mac*

As of Word 2011, it is unfortunately not yet possible to export to accessible PDF from a Mac. You can create an accessible Word document in Word 2011, but if you ultimately need to export the document to PDF that final step must be taken in Windows.

## Checklist when using an existing PDF

The checklist specifically applies to Acrobat Pro X and XI. Many of the same principles applied in earlier versions of Acrobat as well, but the steps for completing them are different. For additional information about fixing accessibility using Acrobat Pro versions 7 through 9, see WebAIM's tutorial PDF go here:

<http://webaim.org/techniques/acrobat/acrobat7to9>. **NOTE:** Modifying PDFs can have unpredictable results, and there is no undo. Save often!

- Tested for image or text file; converted to text if needed
- Tested for tags; added tags if needed
- Tested for Reading Order; hid unnecessary images, added alt text, rearranged reader order, edited tables if needed
- Tested for Headings; added built-in headings if needed
- Tested for markup; tagged lists, tagged tables, put content in reasonable order if needed
- Tested for URLs as links; created links if needed
- Tested for Language; identified if needed
- Tested for Other Errors, fixed if needed

### Step 1. Does document have text?

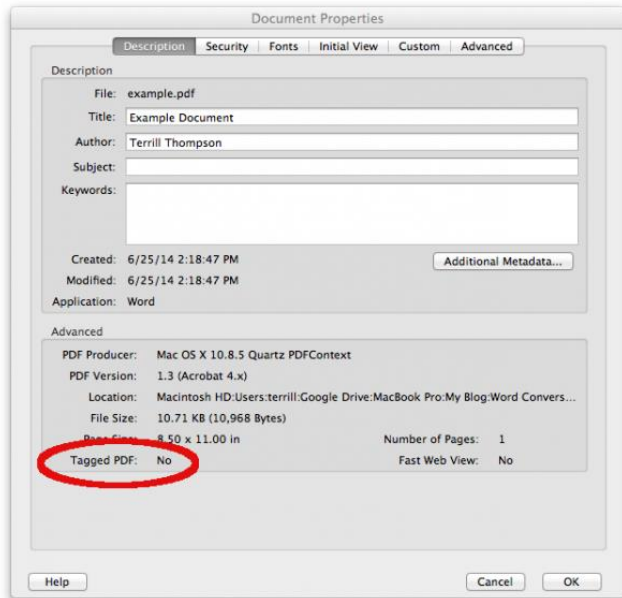
**How to test:** Try selecting text using a mouse, or select all text using Edit > "Select All" from the Acrobat menu.

**If No:** This is an image file and is not accessible. Covert to text using View > Tools > "Recognize Text".

## Step 2. Is document tagged?

**How to test:** Go to File Properties (Ctrl+D in Windows, Command+D in Mac). In the bottom left corner of the Document Properties dialog, see the “Tagged PDF” field.

**If No:** this document needs to be tagged. Tags provide the structure on which accessibility is built. Add tags by selecting View > Tools > Accessibility > “Add Tags To Document”.



## Step 3. Does document need to be “touched up”?

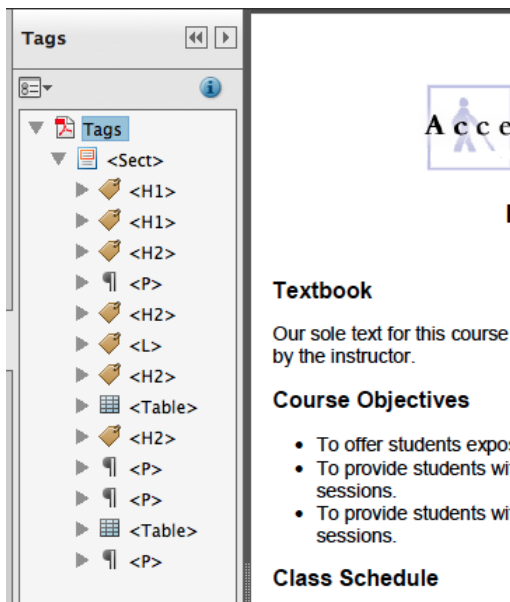
**How to test:** Use View > Tools > Accessibility > “Touch Up Reading Order” to see the order in which content on the current page will reflow if the document is viewed in a small window such as on a mobile device. This can also provide a fairly (though not entirely) accurate representation of the order in which screen readers will read the content.

Some accessibility fixes can be made using this tool. Here are a few:

- Hide decorative or redundant images from screen reader users. To do so, click an image, then click “background”
- Add or edit alt text for informative images. To do so, right click on an image, then select “Edit alt text”.
- Rearrange read order if needed. To do so, click “Show order panel”, then drag items to their appropriate location.
- If the page includes data tables, click a table, then click the “Table Editor” button to edit accessibility features within the table.

## Step 4. Are headings marked up as headings at appropriate levels?

**How to test:** First, study the document visually to determine what the heading structure should be. Next, open the Tags Panel by selecting View > Show/Hide > “Navigation Panes” > Tags. The Tags Panel shows a tree of tags that is very similar to HTML.



There are a variety of ways to explore the tag tree. For example, use Acrobat's text selector tool to highlight text in the document (for example, a heading) then click the menu icon at the top of the Tags pane and choose "Find tag from selection". This will expand the tag tree if needed and highlight the selected tag.

Alternatively, click the menu icon at the top of the Tags pane and be sure "Highlight Content" is checked. Then click on any tag to see the content associated with that tag highlighted in the document.

Headings should be marked up with tags that are equivalent to HTML heading tags (i.e., <H1> for the main heading, <H2> for subheadings, then <H3>, <H4>, etc. Some authoring tools may create tags that have heading-like names (e.g., "<Heading\_Level\_1>"). However, these are not recognized by screen readers and will need to be changed.

**To change a tag**, right click on the tag, select Properties, then choose an appropriate tag from the list. If you know what the correct name should be for a particular tag, you can also double-click the tag and type in the correct name.

### Step 5. Does other markup need to be fixed?

**How to test:** Follow the same instructions as in the previous step. However, rather than focusing specifically on headings, consider the overall structure.

Are lists tagged as lists?

Does content in appear in a reasonable order? In Step 3 you checked the read order of content, and may have rearranged some items so they would flow in a meaningful order in a small window. While this order is typically close to the order of items in the tag tree, the latter is the actual order in which items will be read by screen readers. If items seem to be out of order in the tag tree, drag them to a better location.

Authoring tools generate a wide variety of tags. These typically aren't cause for alarm, as screen readers ignore most of them and render their content as paragraphs. As long as headings are tagged as headings; and lists, tables, and images are all tagged up appropriately, a document will likely be easy for screen reader users to navigate, read, and understand.

In some cases, the tag tree of a document is a total mess, and it might be easier to delete all tags and start over building them from scratch rather than try to fix the existing tags.

### Step 6. Are URLs encoded as links?

**How to test:** Try clicking a link to see if it attempts to open the target resource in a web browser.

**If not:** go to Tools > “Document Processing” > “Create Links from URLs”

### Step 7. Is the language of the document defined?

**How to test:** Go to File > Properties > Advanced > Language.

**If not:** If no language is specified, select one and save the document.

### Step 8 Check for any lingering errors

**How to test:** Run the accessibility checker that is built in to Acrobat Pro. Select Tools > Accessibility > “Full Check” then read the report and follow the prompts.

This is the final step in our checklist, rather than the first step, because some documents generate dozens of errors that can easily be addressed with the first seven steps. This way, the accessibility checker will report fewer problems and will be easier to read and work with.