Accessibility
Creating Accessible PDFs using Microsoft Word

What is PDF Accessibility?

Accessibility is a general term used to describe the degree to which a product, device, service, or environment is available to as many people as possible. PDF Accessibility is the creation of a fully accessible PDF that can be accessed by people with disabilities. PDF files were not originally designed to be read using computers, but to be printed.

Today, companies increasingly use PDF files to exchange and send out digital information using a universally accepted format, however PDF files are not generally accessible to people with visual impairments. Towson University is committed to providing documentation so that it is accessible to as many people as possible including people with disabilities.

Section 508 of the Rehabilitation Act requires that federal agencies' electronic and information technology be accessible to people with disabilities. Although Towson University is not a federal agency, documentation created by the university should follow the standards set by Section 508.

In this document, you will learn how to take a Microsoft Word Document and make it accessible and available as a PDF.

Compliance Attributes

A fully compliant PDF has the following attributes:

1. Required Section 508 compliance:

    - Alternative text on images (Section 508-1194.2 a)

    - Style elements (Heading 1, etc.) (Section 508-1194.2 d)

    - Header rows on tables (Section 508-1194.2 g)

    - Form fields (Section 508-1194.2 n)

2. Recommended as best practices for creating accessible documents:

    - Completed document properties

    - Automatic page numbering

    - Fully qualified URLs with screen tip text

    - Short titles in headings

    - Automatic bulleting and numbering

    - Automatic footnotes

    - Recommended fonts

    - Avoidance of repeated blank characters

    - Objects aligned in-line with text

Note: Each attribute must be composed and made compliant in the originating program (Word, Excel, PowerPoint) before being converted to PDF format.

Checking Accessibility Compliance in Microsoft Word 2013 or 2016

Prior to making a document compliant, you should check to see how compliant a document may already be by using the built in Accessibility tools in Microsoft Office. Perform the following steps to verify compliance:

1. From the **File** tab, select **Check for Issues** from the **Info** menu.
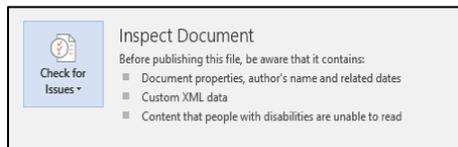

Figure 1

2. Select **Check Accessibility** from the drop-down menu.
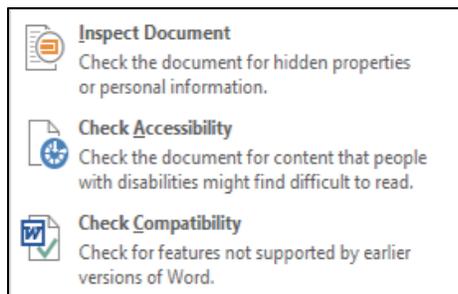

Figure 2

3. The **Accessibility Checker** pane will appear showing **Inspection Results**. This may include both **Errors** and **Warnings** showing how compliant your document currently is along with an **Additional Information** section providing help for specific sections. Selecting an item on the list will reveal steps to repair the problem. Once an item is repaired, it will be removed from the list.
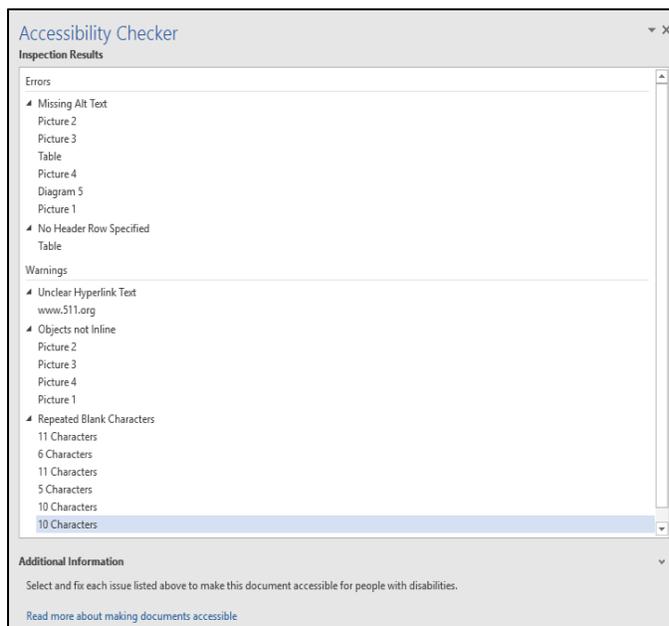

Figure 3

Add Alternative Text to Images, Objects and Captions (508-1194.2 a)

Each non-text element (such as an image, object or caption on the page) must have alternate text describing what the element is to a screen reader. That way, people with visual impairment can still understand what the intended message of the non-text element is. This is done by adding alternative text. Alternative text, also known as alt text, appears when you move your pointer over a picture or object.
Alt text helps people who use screen readers to understand the content of non-text elements in your document.

1. Right-click the non-text element and then click **Format Picture**. **Note**: The menu item could say **Format Shape** or **Format Object** depending on the non-text element selected.
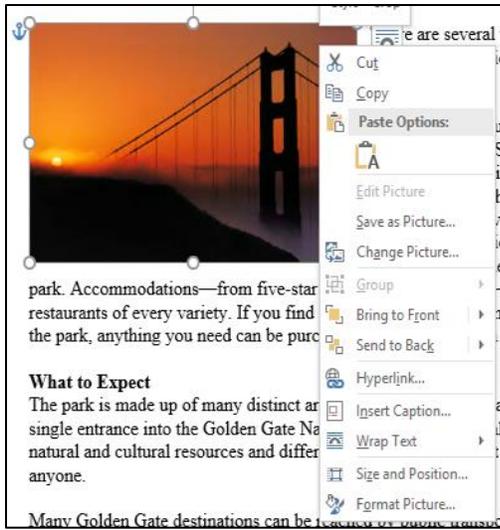
Figure 4

2. Click **Format Picture**. A **Format Picture** viewing pane will appear.

3. Select the **Layout & Properties** icon and toggle the **Alt Text** option.

4. Add a title and description to their respective boxes. **Note**: Both a Title and Description is needed to ensure that the document is fully compliant.
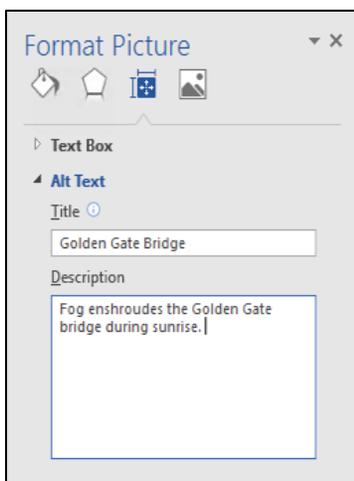
Figure 5

Note: If the non-text item is decorative in nature, substitute text in the **Title** and **Description** box with adjoining double quotes: "". This will ensure that the speech synthesizer (i.e.: J.A.W.S - Job Access With Speech) that will read the document out loud to the user skips this content altogether.

5. Repeat the process for every non-text element that appears in the document. As each non-text element is repaired, the item will be removed from the **Accessibility Checker** viewing pane.

Applying Style Elements to a Document (508-1194.2 d)

A good heading structure is probably the most important accessibility consideration in most Word documents. Headings will allow screen reader users to navigate through the page easily and will make the page more usable for everyone. Each heading, sub-heading or title used in the document must have a style element applied.

1. Type the heading as you normally would and then highlight the text.
2. Select a **Style** from the **Styles** menu on the **Home** tab.

Figure 6

3. The new style will be applied to the highlighted text.
4. You can see how the selected text will look by hovering your mouse over the style you want to preview.
5. To ensure that the document passes a compliance check, at a minimum the **Title Style** and **Heading 1** style should be used. Additional styles can be applied to the document as necessary.
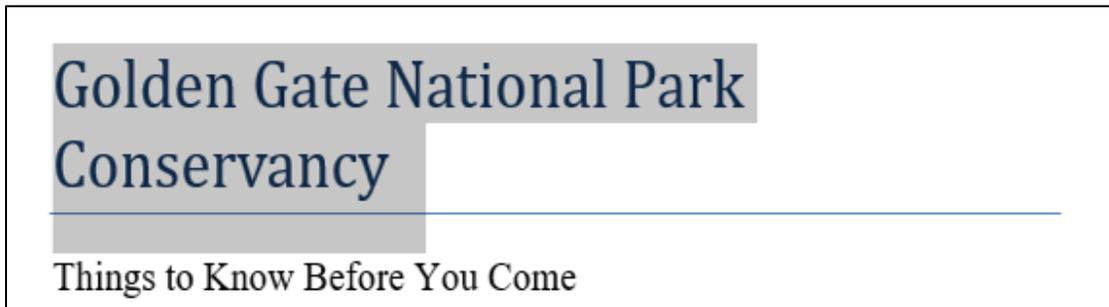

Figure 7

Note: Styles do not appear on the Accessibility Checker as the use of styles requires a manual check of the document. However, styles create structure for the PDF document so they are considered essential and important.

Creating Accessible Tables (508-1194.2 g)

Each table created must have the header row (first row in the table) clearly defined, and repeated on the top of every page as well as descriptive alt text. This way, the speech synthesizer software will read the table in a manner that is understandable to the end user.

1. On the **Table Tools Design** tab, in the **Table Style Options** group, select the **Header Row** check box.
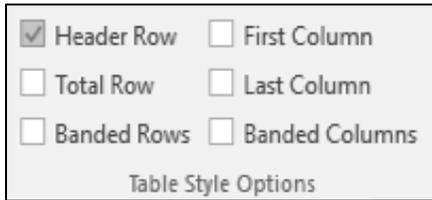

Figure 8

2. Select a **Table Style** from the **Table Styles** group. **Note**: You can select any table as long as it is not in the **Plain Tables** group. ⌐SEP¬

3. Select **Properties** from the **Layout** tab and choose **Repeat as header row at the top of each page**.
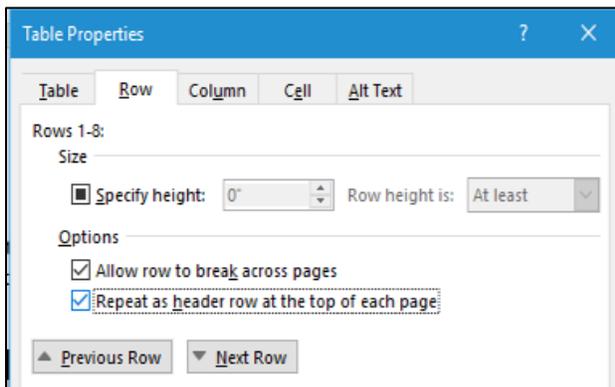

Figure 9

4. On the **Alt Text** tab, enter a **Title** and **Description** for the table in the respective boxes. The table will be removed from the **Errors** section on the **Accessibility Checker**.
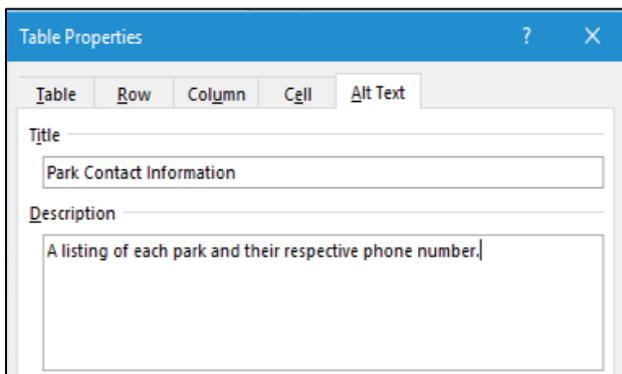

Figure 10

Additional Document Repair (Recommended)

A PDF meets requirements of Section 508 of the Rehabilitation Act when alternate text is added to non-text elements, styles are used and tables have headers. However, there are additional steps that will make a document more accessible to screen reading software, an important tool for the visually impaired.

Adding Document Properties

Each document created should contain minimal document properties (metadata used to help identify the author, date created etc.). The location of the Document Properties in each Microsoft Office package is the same.

1. Once the document has been created, click the **File** tab on the **Ribbon** to reveal the **Backstage View**.[SEP]

2. Select the **Info** tab on the left side to reveal the **Properties** panel on the far right side of the screen.

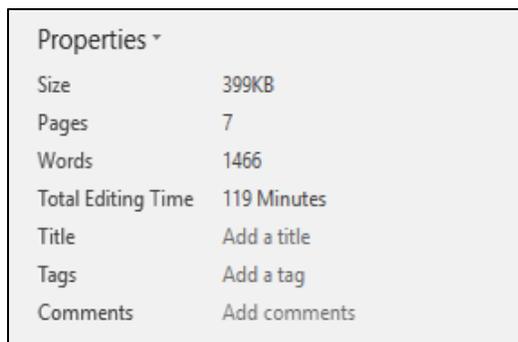| Properties ▾	
Size	399KB
Pages	7
Words	1466
Total Editing Time	119 Minutes
Title	Add a title
Tags	Add a tag
Comments	Add comments

Figure 11

3. Fill out the **Title**, **Tags** and **Comments** tags. This makes the document easier to search for in a file system.

Automatic Page Numbering

For a document to be easily read by speech synthesizer software, page numbers must be created automatically, not inserted manually.

1. From the **Insert** tab, select the drop-down arrow beside **Page Number** in the **Header and Footer** group.
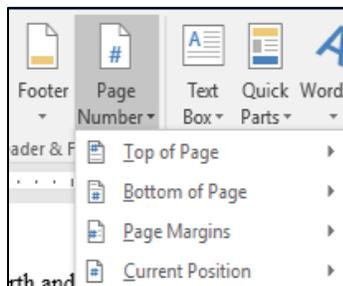
Figure 12

2. Select the menu for the corresponding location for which you want the page number to appear.[SEP]

3. The page number will be automatically inserted into each page of the publication or document.

Creating Fully Qualified URLs

A hyperlink should be fully qualified (written out completely with a description) as well as having a **ScreenTip** for it to be properly read and navigated by speech synthesizer software. Hyperlink text should provide a clear description of the link destination, rather than only providing the URL. Ideally both should be displayed.

1. Type the website address as you would normally and then highlight the text.

2. Click **Hyperlink** from the **Links** group from the **Insert** tab on the ribbon. The **Insert Hyperlink** dialog box will appear.

3. In the address bar, type the full address of the website, including the prefix. For example, **www.511.org** will become **http://www.511.org**.
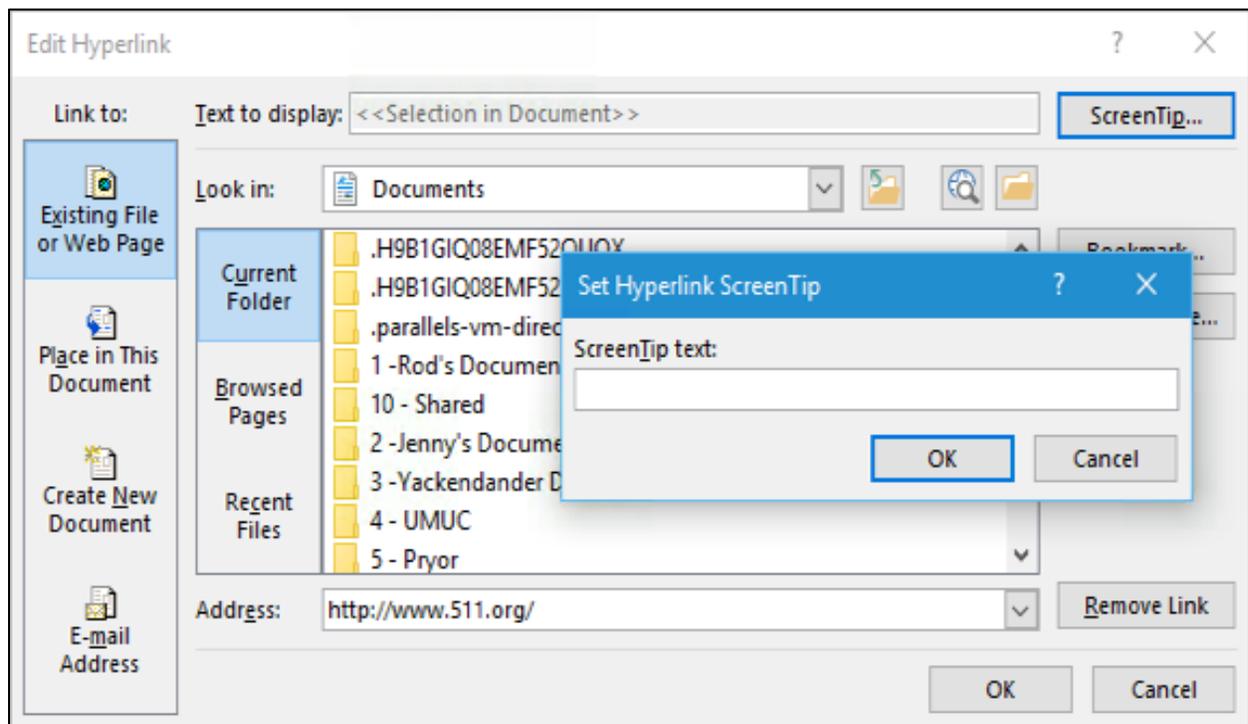

Figure 13

4. In the **Text to Display** box, type the hyperlink as you wish people to see it.[1]

5. Click the **ScreenTip** button and add a description to where the hyperlink will take you.

6. Click **OK** to close the window and accept the hyperlink.

Use Short Titles in Headings

When you use headings in a document, be sure to keep them short (fewer than 20 words). In general, headings should be, at most, one line long. This makes it easier for readers to quickly navigate the document, either by scanning it, or by using the Navigation pane.

Automatic Bullets and Numbering

Bullets and numbers must be created automatically, not inserted manually.

1. From the **Home** tab, click the **Bullets or Numbering** icons in the **Paragraph** group.
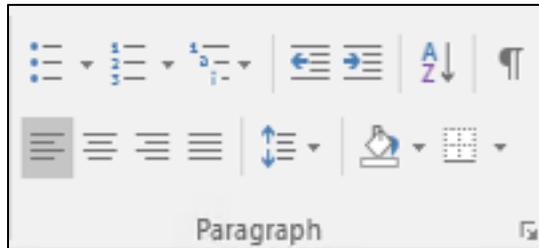

Figure 14

2. If you are selecting a bullet, choose a bullet style from the drop-down list. ⌞SEP⌟

3. If you are selecting a number, choose a number style from the drop-down list.⌞SEP⌟

4. The bullet or number will appear in the text. ⌞SEP⌟

Automatic Footnotes

When creating a footnote, using automatic footnotes instead of typing them in manually will make a document more readable.

1. At the place in the text where the footnote is to appear, click **Insert Footnote** from the **Footnotes** group on the **References** tab.
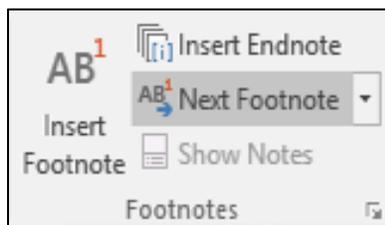

Figure 15

2. The footnote number will be added beside the text and the cursor will be placed at the bottom of the page.

3. Type the footnote text beside the footnote number. When finished, click back on the paragraph and continue typing. ⌞SEP⌟

Recommended Fonts

Not all fonts are compatible with screen readers. Section 508 of the Rehabilitation Act does not specifically state which fonts are required. However, as a general rule, fonts that are easily readable and available on all platforms (Mac, PC, Linux etc.) are suitable. Arial, Times New Roman, Helvetica and Calibri are examples of fonts that meet this criteria.

Avoid Using Repeated Blank Characters

Extra spaces, tabs and empty paragraphs may be perceived as blanks by people using screen readers. Instead, use formatting, indenting, and styles to create whitespace.

1. Remove any existing whitespace around the paragraph. ⌞L⌟
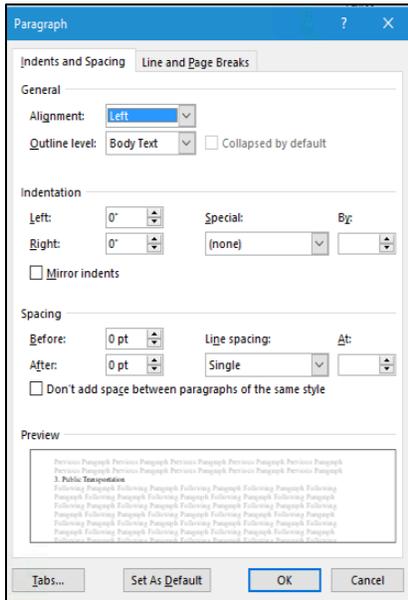2. Select the text and then right-click and choose **Paragraph**.

Figure 16

3. Select values for **Indentation** and **Spacing** to create whitespace.

Objects Aligned In Line with Text

Objects that have text wrapping applied are difficult for screen reader software to navigate. Therefore, ensuring all objects wrapping is set to In Line with Text will help with navigation of the document.

1. Right-click on the image or object.
2. Select Wrap Text and choose **In Line with Text**.
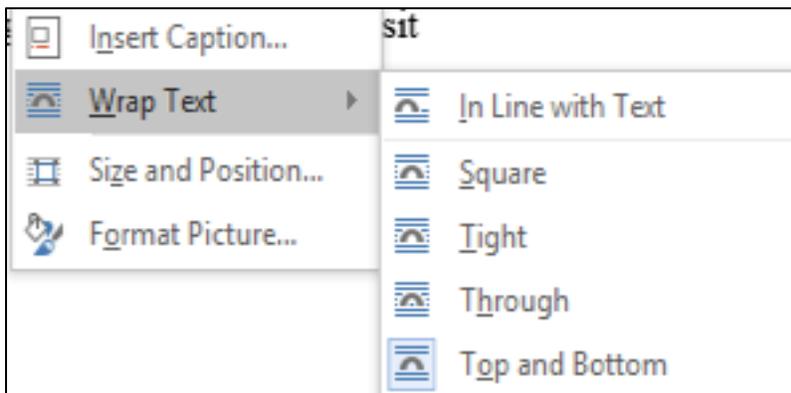3. The text surrounding the image will be altered so that the image is in line with text.

Figure 17

Converting to PDF

Once a document has been made compliant in Microsoft Word, it will need to be converted to PDF format. PDF (Portable Document Format) is a universally recognized format that can be viewed on both Mac and PC as well as mobile devices. Using the built-in tool found in Microsoft Office, you can save a document as a PDF.

1. With the document open, click the **Export** menu option from the **File** tab.

2. Select the **Create PDF/XPS** button for Word 2013 or **Create Adobe PDF** button for Word 2016. The **Publish as PDF or XPS** dialog box will open.

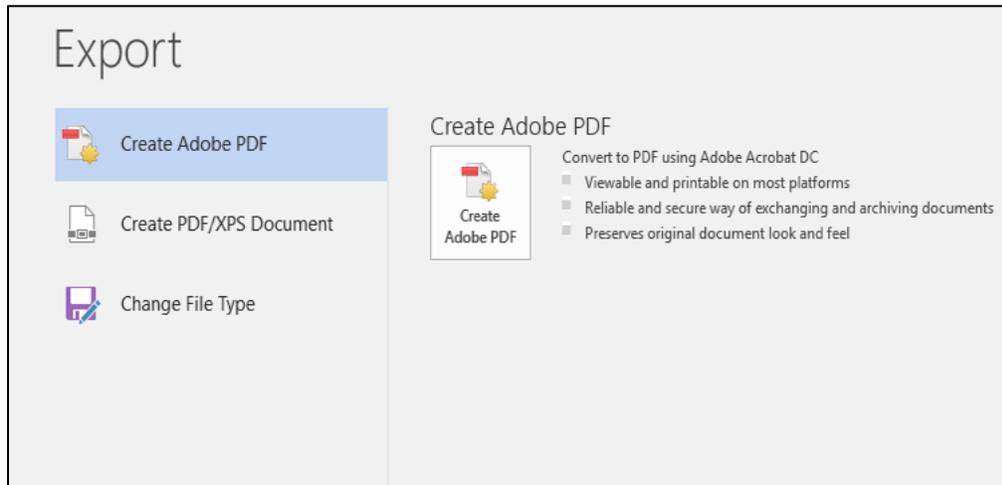**Note**: The menu choice will be different depending on the version of Word you are using.

Figure 18

3. Give the new PDF publication a name and click **Publish** to convert the document to a PDF.
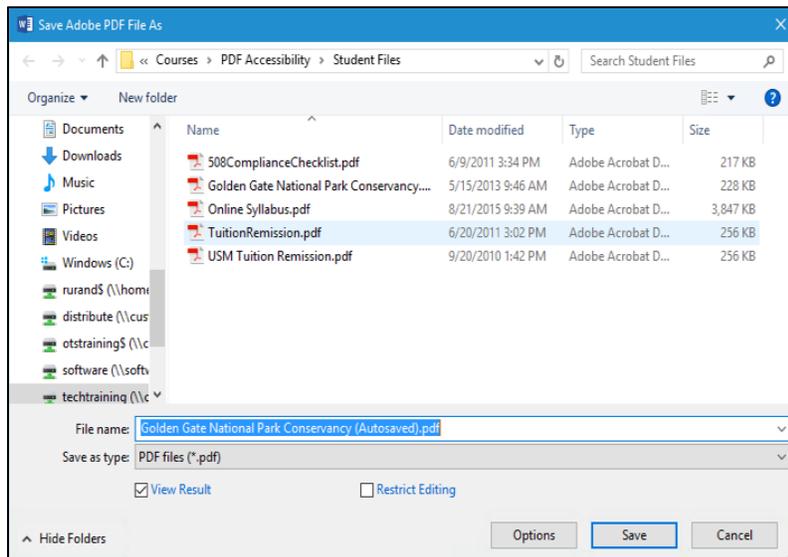

Figure 19

4. The newly created PDF will open in Adobe Acrobat Reader (if installed).