

Microsoft Word 2016 Tutorial

This tutorial requires a basic understanding of how to use Microsoft Word and focuses only on operations useful for the Word and Excel Assignment 2020. This transcript is supplementary to the video series “FEAS Microsoft Word Tutorials.”

The two column sections indicate the desired action on the left side and the steps to achieve it on the right side. Underlined phrases indicate menu tabs (such as Home), italicized phrases indicate menu options (such as *Font*), and bolded phrases indicate actions within each menu option (such as **Font Size**). Words enclosed in <_> (such as <Enter>) indicate keyboard keys.

1. Quick Styles

First we’re going to discuss Quick Styles, which can be used to create professional headings and subheadings. This is located in the Home bar under *Styles* and contains a number of options. It is recommended that the **Title** style be used for titles, **Heading 1** be used for section headings and **Heading 2** be used for subheadings. Other styles can be used as desired.

To apply a style:

Add text then highlight the line by moving the cursor over to the left margin until it changes to a white arrow. Left click next to the text to highlight, then go to the *Styles* bar in the Home tab and select the desired style.

This method can be used to apply styles to headings and other text. Simply follow the highlighting steps then select your desired style. To preview a style, highlight the text then hover the cursor over the style. The style will be temporarily applied to the highlighted text until the cursor is moved.

2. Breaks

A useful formatting element in Word is breaks. Breaks are used to insert new pages or sections into a document and preserve formatting within sections. It is generally recommended that breaks (either page or section depending on required formatting) be used after the title page, after the table of contents and list of tables/figures, and before appendices.

2.1 Page Breaks

Page breaks are added to start at a new page and allow additions to previous pages without altering the format of pages below it.

To add a page break:

After adding text, click <Enter> to start a new line. In the Insert tab under *Pages*, select **Page Break**.

2.2 Section breaks

Section breaks are used to change document formatting for sections within a larger document. For example, page number format often varies throughout a document. Generally, the title page has no number, table of contents/list of tables/figures uses Roman numerals (i, ii, iii etc.) and the body of the document uses Arabic numbers (1, 2, 3 etc.). Section breaks allow the page number component of the document to have multiple formats throughout.

To add a section break:

After adding text, click **<Enter>** to start a new line. In the Layout tab under *Page Setup*, select the **Breaks** drop down menu and choose **Next Page**.

This action creates a section break on the next page, and formatting for the next section can be done independently from previous sections. Adding a next page section break automatically adds a page break. Note that it is essential to add a next page section break when changing page number formatting within a document.

3. Table of Contents, Table of Figures, List of Tables

Next we'll cover table of contents, table of figures and lists of tables. Professional reports include all of these elements for quick reference for the reader. These can be created automatically in Word if Quick Styles are used to format headings, subheadings, titles and captions.

To insert a Table of Contents:

In the References tab under *Table of Contents* select **Table of Contents > Automatic Table 2**.

To insert a Table of Figures or List of Tables:

In the References tab under *Captions* select **Insert Table of Figures**. Make sure the following boxes are **checked**: Show Page Numbers, Right Align Page Numbers, Include Label and Number. To create a Table of Figures, select **Figure** from the **Caption Label** drop down menu. For a List of Tables, select **Table** instead.

These instructions will only work if Quick Styles is used for formatting headings and subheadings.

4. Page Numbers

Page numbers are used in all professional reports to improve ease of locating information within the document.

To add page numbers to a document:

In the Insert tab under *Header & Footer*, select the **Page Number** drop down menu and select **Top of Page > Plain Number 3**

This will place Arabic numbers in the top right hand corner of every page starting at 1 on the first page of the document.

As mentioned, general formatting for Engineering reports has no page number on the title page, roman numerals starting at *i* for tables of contents and figures, and Arabic numbers starting at 1 for the report body. Section specific formatting requires a few more steps. These steps may have to be altered or omitted depending on specific formatting requirements.

First, format document with section breaks:

Add next page section breaks in the document between sections that will have different formatting. If you've already used page breaks, you'll have to delete them then add a section break instead.

Next, add page numbers:

As described previously.

To add Roman numerals to a section:

Double click the header of the first page of the section to select it. This causes the Header & Footer Tools tab to open. Under *Header & Footer* select **Page Numbers > Format Page Numbers**. In the window that opens, use the **Number Format** drop down menu to select Roman numerals. Make sure 'Include Chapter Numbers' is unchecked, select 'Start at:' and type *i* in the 'Start at:' box.

Follow the same process for any subsequent sections to switch to any other numbering format. Numbers can be set to start at any value at the beginning of a section using the 'Start at:' box.

To remove number from title page:

Select header on title page. In the Header & Footer Tools tab under *Options*, check the box next to **Different First Page**. This will leave the header blank on the first page only.

To add text (such as last name) next to numbers:

Double click the header and type next to the number.

In headers with right aligned page numbers, text will automatically appear to the left of the number such that the number is always right aligned. Changes to one header will appear on every page, regardless of section breaks, except for the first page if the **Different First Page** box is checked.

5. Equation Editor

In engineering reports it is often useful to include equations that are relevant to the analysis. To insert equations easily into a document, use Equation Editor.

To create a new equation:

In the **Insert** tab under *Symbols*, select the **Equation** drop down menu and select **Insert New Equation**. Type your equation in the box that appears.

Alternatively, click <Alt> and <=>.

The following keyboard shortcuts are particularly useful for generating equations quickly in Word.

To create subscripted text:

Type the base number, <_>, followed by the desired subscript. Click <space> to make the subscript appear.

e.g. a_b followed by a space produces a_b

If you would like to include multiple terms in your subscript, enclose them in brackets.

e.g. $a_{(b+c)}$ followed by a space produces a_{b+c}

To create superscripted text:

Type the base number, <^>, followed by the desired superscript. Click <space> to make the superscript appear.

e.g. a^b followed by a space produces a^b

If you would like to include multiple terms in your superscript, enclose them in brackets.

e.g. $a^{(b+c)}$ followed by a space produces a^{b+c}

To create a multiplication sign:

Type your first number, <space>, <\>, the word "times", <space>, followed by your second number.

e.g. $a \backslash \text{times } b$ followed by a space produces $a \times b$

To create a fraction:

Type your numerator, </>, followed by the denominator. Click <space> to make the subscript appear.

e.g. a/b followed by a space produces $\frac{a}{b}$

If you would like to include multiple terms in your denominator, enclose them in brackets.

e.g. $a/(b+c)$ followed by a space produces $\frac{a}{b+c}$

To create a square root sign:

Type `<\>`, the word “sqrt”, `<space>`, followed by the expression you would like to take the root of.

e.g. `\sqrt a` followed by a space produces \sqrt{a}

If you would like to include multiple terms under your square root, enclose them in brackets.

e.g. `\sqrt (a + b)` followed by a space produces $\sqrt{a + b}$

To create a degree sign:

Type your number, `<\>`, the word “degree”, followed by a `<space>`.

e.g. `10 \degree a` followed by a space produces 10°

To create a therefore sign:

Type `<\>`, the word “therefore”, followed by a `<space>`.

e.g. `\therefore a` followed by a space produces \therefore

To create a lowercase Greek letter

e.g. δ :

Type `<\>`, the word “delta”, followed by a `<space>`.

e.g. `\delta a` followed by a space produces δ

To create an uppercase Greek letter

e.g. Δ :

Type `<\>`, the word “Delta”, followed by a `<space>`.

e.g. `\Delta a` followed by a space produces Δ

A number of other useful equation shortcuts can be found in Microsoft Office help forums online.

6. References in IEEE

It is often necessary for engineers to use information found online and in texts, which necessitates using citations. Citation management tools make this process more accurate and efficient. While this tutorial only outlines the use of the Microsoft Word citation management tool, other tools such as Zotero, RefWorks, and Mendeley, are appropriate.

It is important to be aware that no citation management tools are perfect. Whenever citations are generated using a citation management tool, they should be closely compared with the appropriate citation style guide to ensure they follow the correct format.

For example, when referencing in IEEE, all citations should be reviewed to ensure they follow the format described in the official IEEE Editorial Style Manual.

The IEEE Editorial Style Manual can be accessed at the following link:

<http://journals.ieeeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Editorial-Style-Manual.pdf>

The following link is also very helpful:

<http://journals.ieeeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Reference-Guide.pdf>

Remember that any manual changes made to a reference list automatically generated by a citation management tool will be lost every time the list is updated. Complete all manual changes after your reference list is complete.

In the Microsoft Word citation management tool, the Source Manager is used to cite material not written by the authors of the document. The Source Manager saves sources and can be used to generate references lists and add citations to text. To use these functions, sources must be saved in the Source Manager.

The style of citations can be selected in the *Citations and Bibliography* bar in the **Styles** drop down menu. Generally, IEEE format is used.

To select IEEE format:

In the References tab under *Citations and Bibliography* select the **Style** drop down menu and choose IEEE.

To add sources to the Source Manager:

In the References tab under *Citations and Bibliography* select **Insert Citation > Add New Source**. A new window will come up. Select the type of source in the drop down menu and fill as much information into the manager as possible. Select OK to add to the current list of sources.

Be mindful of how you are entering the information in the Source Manager. Detailed instructions describing how to correctly enter information for the most common types of sources have been included below.

To add citations to text:

Place the cursor in the text where the citation needs to be placed. In the References tab under *Citations and Bibliography* select **Insert Citation** and double click the citation to place it.

In text citations should always be placed at the end of a sentence before the period.

Each sentence containing information published by another author should be cited. It is not sufficient to cite the last sentence in a paragraph containing information from one source.

To add a List of References to a document:

In the References tab under *Citations & Bibliography* select **Bibliography > References**. This will automatically insert a list of References into the document. Ensure that the list that is generated is appropriately formatted and the list of numbers is properly aligned.

It is useful to cross-reference tables and figures in reports so changes to table/figure numbers is automatically updated. A cross-reference essentially links the table/figure reference in the text to the specific table/figure being referenced. Cross-referenced tables/figures must have captions done correctly using *Styles*.

To add a cross-reference:

Place the cursor in the desired location for the cross-reference. In the Insert tab under *Links* select **Cross-Reference**. In the window under **Reference type** select the item type (usually either table or figure) and change **Insert Reference to Only Label or Number**. Select OK and the reference will be placed.

The following outlines, in detail, how to properly input information into the Microsoft Source Manager to ensure that citations are generated in proper IEEE format.

To cite a journal article:

In the References tab under *Citations & Bibliography* select **Insert Citation > Add New Source**. A new window will come up.

In the **Type of Source** drop-down menu select **Journal Article**.

To enter the author names:

1. Do NOT simply type the author names into the **Author** field.
2. Instead, click **Edit** next to the **Author** field.
3. Starting with the first author listed on the journal, type their first, middle, and last names into the appropriate fields. Select **Add**.
4. Repeat this process for all authors of the journal in order.
5. Click **OK**.

To enter the journal title:

1. Simply type the full journal title into the **Title** field.

To enter the journal name:

1. Do NOT type the full journal name into the **Journal Name** field.
2. Instead, research the abbreviated journal name and type this into the **Journal Name** field. All journals have abbreviated names that can very easily be found online.

To enter the year, pages, volume, and issue:

1. Simply type the year, page range, volume, and issue into their respective fields.

Ensure that the citation generated in your References section follows proper IEEE format. Adjust if necessary.

To cite an entire book:

In the References tab under *Citations & Bibliography* select **Insert Citation > Add New Source**. A new window will come up.

In the **Type of Source** drop-down menu select **Book**.

To enter the author names:

1. Do NOT simply type the author names into the **Author** field.
2. Instead, click **Edit** next to the **Author** field.
3. Starting with the first author listed on the book, type their first, middle, and last names into the appropriate fields. Select **Add**.
4. Repeat this process for all authors of the book in order.
5. Click **OK**.

To enter the book title:

1. Simply type the full book title into the **Title** field.

To enter the year and city:

1. Simply type the year and city into their respective fields.
2. Include the abbreviated name of the state or the country (if not published in the USA) following the city name and separated by a common.
e.g. San Francisco, CA

To enter the edition:

1. Select **Show All Bibliography Fields**.
2. Type the edition of the book into the **Edition** field.

To enter the publisher:

1. Do NOT type the full publisher name into the **Publisher** field.
2. Instead, research the abbreviated publisher name and type this into the **Publisher** field. Conventions for abbreviated publisher names can very easily be found online.

After generating your reference list:

1. Manually adjust your citation by italicizing the book title in your reference list to conform with IEEE format.
2. Also, if a book edition was included, manually remove the unnecessary comma after the edition number, before the city name.
e.g. ...2nd ed., San Francisco...

Ensure that the rest of the citation generated in your reference list follows proper IEEE format. Adjust if necessary.

To cite a chapter in a book:

In the References tab under *Citations & Bibliography* select **Insert Citation > Add New Source**. A new window will come up.

In the **Type of Source** drop-down menu select **Book Section**.

To enter the author names:

1. Do NOT simply type the author names into the **Author** field.
2. Instead, click **Edit** next to the **Author** field.
3. Starting with the first author listed on the book, type their first, middle, and last names into the appropriate fields. Select **Add**.
4. Repeat this process for all authors of the book in order.
5. Click **OK**.

To enter the chapter title:

1. Simple type the full chapter title into the **Title** field.

To enter the book title:

1. Simple type the full book title into the **Book Title** field.

To enter the year, pages, and city:

1. Simply type the year, page range, and city into their respective fields.
2. Include the abbreviated name of the state or the country (if not published in the USA) following the city name and separated by a common.
e.g. ...San Francisco, CA...

To enter the edition:

1. Select **Show All Bibliography Fields**.
2. Type the edition of the book into the **Edition** field.

To enter the publisher:

1. Do NOT type the full publisher name into the **Publisher** field.
2. Instead, research the abbreviated publisher name and type this into the **Publisher** field. Conventions for abbreviated publisher names can very easily be found online.

After generating your reference list:

1. Manually change the comma separating the abbreviated state/country name and the abbreviated publisher name to a **colon**.
e.g. ...San Francisco, CA, Wiley...
2. Also, if a book edition was included, manually remove the unnecessary comma after the edition number, before the city name.
e.g. ...2nd ed., San Francisco...

Ensure that the rest of the citation generated in your reference list follows proper IEEE format. Adjust if necessary.

To cite a website:

Please note that after using the Microsoft Word citation management tool, many manual adjustments are required to produce correct IEEE citations.

In the References tab under *Citations & Bibliography* select **Insert Citation > Add New Source**. A new window will come up.

In the **Type of Source** drop-down menu select **Web site**.

To enter the author names:

1. Do NOT simply type the author names into the **Author** field.
2. Instead, click **Edit** next to the **Author** field.
3. Starting with the first author listed on the website, type their first, middle, and last names into the appropriate fields. Select **Add**.
4. Repeat this process for all authors of the website in order.
5. Click **OK**.
6. If there are no authors present and the webpage was created by an organization, it may be acceptable to type the organization name into the **Author** field.

To enter the title of the web page:

1. Simple type the full name of the web page into the **Production Company** field. Do NOT type it into the **Name of Web Page** field (this will make formatting more challenging).

To enter the year, month, and day in which the content was published:

1. Simple type the year, month, and day into their respective fields.

You do not need to enter the year, month, and day in which the web page was accessed.

To enter the URL:

1. Simply copy the URL of the web page and paste it into the URL field.

After generating your reference list:

1. Manually italicize the web page name in your citation.
2. Replace the comma following the author names with a period.
3. Also, remove the day, month, year, and period inserted by word following the web page title.
4. Instead, insert the day, month, year, and period after the author names in the form "(year, month day)."

e.g. J. Smith. **(2005, May 10)**. *How Polymers Are Formed ...*
5. Finally, manually remove the comma separating the web page name and the words "[Online] ".

e.g. ... *How Polymers Are Formed*, [Online]...

Ensure that the rest of the citation generated in your reference list follows proper IEEE format.

Adjust if necessary. Definitely consult page 3 of the following document for reference:

<http://journals.ieeeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Reference-Guide.pdf>

Citing other less common resources such as lecture notes, images, and videos can be more challenging. These resources must still be cited and you should research how to do so. Many IEEE style guidelines and examples can be easily found online. When in doubt, include as much information about the sources as possible and try to conform to IEEE format.

7. Illustrator

It can be useful to create simple diagrams or flow charts in Word. This is possible by inserting shapes into the document using Microsoft Illustrator.

To insert shapes into a document:

In the Insert tab under *Illustrations*, select the **Shapes** drop down menu and choose a specific shape by clicking on it. Click on the document to place the shape.

Shapes can be manipulated after placement using the Drawing Tools tab that appears after clicking on the placed shape.

To group a number of shapes into one figure:

Select all shapes by clicking on them and right click. Select **Group > Group**.

8. General Formatting

Appropriately formatting your text and paragraphs is essential to producing a professional looking document. The following describes how to format your text and paragraphs, as well as formatting styles considered appropriate in APSC 100.

To select a font style:

In the Home tab under *Font*, select the **Font** dropdown menu and choose a desired font. For professional documents, Times New Roman is always appropriate, but sometimes fonts such as Calibri, Cambria, or Arial may be appropriate.

To select a font size:

In the Home tab under *Font*, select the **Font Size** dropdown menu and choose a desired font size. For the body of the text, size 11 or 12, depending on the font style, are appropriate for professional documents.

To alter your paragraph justification:

In the Home tab under *Paragraph*, you have the option to select **Align Left**, **Center**, **Align Right**, or **Justify**. For the body of text in a professional engineering report, **Align Left** is appropriate. For the purposes of APSC 100, **Justify** should not be used in formal reports.

To select line/paragraph spacing:

In the Home tab under *Paragraph*, select **Line and Paragraph Spacing** and choose a desired spacing value. Single and double spacing correspond with values of 1.0 and 2.0, respectively. Spacing requirements may vary and should be specified for deliverables in APSC 100.

To adjust paragraph indentations:

In the Home tab under *Paragraph*, you have the option to select **Decrease Indent** or **Increase Indent**. For a standard sized indent, select **Increase Indent** once. Alternatively, click <tab>. In professional reports, paragraphs should be separated by a space and should not be indented.

The Word **Format Painter** can be an efficient way of formatting new sections of a report in the same way as a previously formatted section.

To use the format painter:

Using your cursor, highlight a region of text that possesses the desired formatting characteristics you wish to copy.

Then, in the Home tab under *Clipboard*, select **Format Painter**. Your cursor will now have the image of a paint brush beside it. Whatever text you highlight with this cursor will automatically change to your desired formatting characteristics.

9. Saving

Saving your progress often is critical when working in Microsoft Word.

To save your work the first time:

In the File tab under *Save As*, select a location, type a file name, and then click save.

To save your work subsequent times:

In the File tab select *Save*.
Alternatively, click <CTRL> and <s>.

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