Illustrations

Illustrations are used to explain a document’s text, present it in a more-understandable form, help people with alternate learning styles, and so on. Illustrations should be relevant to the text, not “filler” or decoration. Illustrations come in a variety of types.

Photographs.

Photos are realistic and detailed (or start that way, before being Photoshopped). But they may be too detailed or contain too much information. To make them more specific, they can be cropped, enlarged sections can be inset, parts can be traced with lines to emphasize shapes, labels or “callouts” can be used to annotate them, or they can be “masked” to blur or darken irrelevant areas while still providing context.

Line Art.

Line art is a realistic or non-realistic “cartoon”. It can show just what the author wishes to show and omit nonessential details. Parts can be exaggerated (caricature) to over-emphasize parts. Callouts can be used to label parts of the drawing.

Charts, and Graphs

“Chart” and “graph” often refer to the same thing: shapes or lines that represent numbers. Pie charts primarily show ratios, bar charts primarily show absolute and relative magnitude, line charts primarily show trends, and scatter charts primarily show grouping.

Tables

Tables are arrangements of text and/or numbers. They are useful for lookup (e.g., decoding), cross referencing, and presentation of data for comparison.

Audio and Video

While sound and motion are impossible to embed in traditional printed materials, it’s increasingly common to find a CD, CD-ROM, or DVD included with a textbook or manual. Online materials can easily accommodate multiple media; the primary concern is the readers’ ability to access and play the content.

Copyright

Unless you yourself took the photo, drew the picture, or created the graph/chart using original data, it belongs to somebody else, and it’s copyrighted. If you intend to publish it commercially or academically in any form, you must obtain permission from the copyright holder. This may involve conditions like crediting the originator or paying a fee.
“Academic Fair Use” is a policy that makes an exception for certain materials (and quantities of materials) that are used for classroom exercises and homework. **You must still properly cite the material.** The official Copyright Office high-level definition of Fair Use can be found here: [http://www.copyright.gov/fls/fl102.html](http://www.copyright.gov/fls/fl102.html). A much more readable article can be found on Wikipedia: [http://en.wikipedia.org/wiki/Fair_use](http://en.wikipedia.org/wiki/Fair_use).

There are free-to-use and free-to-modify illustrations in CreativeCommons.org.

You also can use Google Images’ Advanced Search to limit your searches to illustrations that are free to use or free to modify. Click the Tools button to bring up the tool icons, then click Usage Rights, and then choose one of the “Labeled…” options, as shown below:
Citations

Citations must be used for everything that isn’t your original words or your original idea. The one exception is “common knowledge,” which is so common that the vast majority of people would know it already.

Some examples of things you must cite:
- A quote: the exact words used by someone else. Either enclose them in quotation marks, or if large, use an indented “block quote” format. (Note: In your Research Report, you aren’t allowed to use enough non-original material to justify a block quote!)
- A paraphrase: your rearranged (disguised!) version of somebody else’s words. No special punctuation is needed.
- An idea, thought, technology, creative image, or something else you explicitly got from somewhere. A good test: If this came to you at a specific moment when reading, seeing, or hearing something, you probably have to cite it.
- An illustration that you got from somewhere, that you adapted from one you got somewhere, that was inspired by somebody’s idea, or that represents someone else’s data.

Citations appear twice in your document:
1. In-line, as a short reference right next to the text that’s based on (or quoted from) your source, and
2. In the References (APA) or Works Cited (MLA) page(s) at the end of your document, in full and exquisite detail.

Citation Formats

Just about any source you can imagine has a specified citation format, from interviews to DVDs to scientific journals. Don’t try to memorize citation formats. Look them up.

In this WR227 class, you will cite your sources in one of two specific (and very rigid) formats:
- APA (American Psychological Association) is used for scientific and engineering documents; it is the default for most published work. ([http://owl.english.purdue.edu/owl/resource/560/01/](http://owl.english.purdue.edu/owl/resource/560/01/))
- MLA (Modern Language Association) is used for literature and art publications. ([http://owl.english.purdue.edu/owl/section/2/11/](http://owl.english.purdue.edu/owl/section/2/11/))

Once there, choose Research and Citation from the orange left menu, then select APA Style or MLA Style. Then select APA Formatting and Style Guide or MLA Formatting and Style Guide. Look up the specific type of citation and use that format. Note that there are separate menu picks for in-text citations and for bibliographic citations.

These two formats cover far more than citations: they also specify typography, page design, and a mind-boggling array of other things. Be aware that in many future courses (including Nursing courses at LBCC), you’ll be required to use the entire format specification for everything in your document. But in this class, only your citations must adhere to the APA or MLA standards.
In-Text Citations

In-text citations can have several formats, depending on where they are used, whether something else has been cited nearby, etc. When in doubt, look it up in the style guide! Future instructors are unlikely to be lenient, but for this class you may use just the simplest form. The citation appears immediately after the quote (outside of the quotation marks), paraphrase, or idea, inside parentheses. It can be inside the sentence (i.e., before the period) or between sentences. It must follow the specified format in the style guide. If you can use software (e.g., CitationMachine or EasyBib) to generate your in-text citation, do so!

APA example:
This report will discuss technical definitions. “Definitions explain a term or concept that is specialized or unfamiliar to an audience.” (Lannon 2008 p. 440) In the case of technical definitions, …

MLA example:
This report will discuss technical definitions. “Definitions explain a term or concept that is specialized or unfamiliar to an audience.” (Lannon 440) In the case of technical definitions, …

In-Text Citations for Illustrations

In-text citations for illustrations go in the caption.

For MLA, it seems you may choose one of two ways. Please use the same chosen method for all illustrations in the document (be consistent).

- (Easiest) Put a full bibliographic citation in the caption of the illustration, in parentheses, and omit the citation in the Works Cited page.
- OR-
- Create a short in-text citation in the normal way as described in the Purdue O.W.L.'s In-Text Citation area. Put it after the figure's title, in parentheses. Also put a full citation in the Works Cited page.

For APA, put a period after the figure's title, then either "Reprinted from:" or "Adapted from:". Follow that with a full bibliographic citation on the same line, created using the standard Purdue O.W.L. method for the type of source where you got the picture. Do not use parentheses. Do not put a citation on the References page. Note that the APA Publication Manual isn’t very explicit about this, and that there are a number of conflicting web sites describing how to handle illustration formatting. Note also that APA seems to distinguish between “illustrations” and “images,” but offers little clarification and few instructions!

Remember to pre-reference illustrations in the text that the illustration supports. You can use a parenthetical comment:
(See Figure 1.)
or you can embed a phrase in a sentence:
… citations are stunningly beautiful, as shown in Figure 1.

For your Technical Research Report only (not for a paper for some other instructor), if the illustration and its data is completely your own work, use the following format:
Figure 1. My Very First Finger Painting (Illustration by author.)

Creating Bibliographic Citations

There are two common ways to create bibliographic citations for your References or Works Cited pages:

1. (Easiest) Use www.WorldCat.org, Ebscohost, or the other resources described in the Library lecture. (Pick the tab for the type of source you have (e.g., Books). Type the title in and click Search books. Find the specific edition you have and click on its title. Click the Cite/Export link near the top of the page. Click the “+” next to your style.) Copy the citation that appears and paste it into your bibliography page.

2. Go to the appropriate style guide (Purdue O.W.L.) and find the format appropriate to the source. Look at the source, find all the information the format is looking for, and type it in. Be careful about punctuation, spaces, italics, capitalization, etc. If WorldCat et al can’t process your information, you will be stuck doing it this old-fashioned way.

Don’t hesitate to get help from the Library or search the web for examples.
Headings

Headings (like the one above) are used to separate documents into manageable pieces, and serve as “navigation aids” for the reader.

Headings correspond to the different levels of material in the outline of the document:

- I. Highest level of material
  - A. Subdivision of that material
  - B. Another subdivision
   - (1) A sub-subdivision
   - (2) Another sub-subdivision
- II. More material at the highest level

Headings have different typography that body text so they stand out clearly. Headings can have different fonts, font sizes, centering vs. left-justification, bold/underline, space above and/or below, colors, etc. Level-1 headings should look more important than level-2 headings, level-2 headings must look more important than level-3 headings, and all headings should look more important than body text.

There must be at least one sentence of body text between different levels of text. This text should explain what’s in the higher level heading’s material, to set context for the reader. Otherwise, the reader may see only the first lower-level heading and not understand what else is coming. The following shows a typical heading arrangement:

**Internal Combustion Engines**

The internal combustion engine burns fuel inside the engine, rather than outside like a steam engine does. Most modern vehicles are powered either by gasoline engines or by diesel engines.

**Gasoline Engines**
Gasoline engines use a spark to ignite fuel inside the engine’s body (usually in a piston’s cylinder or a Wankel engine’s combustion area). The …

**Diesel Engines**
Diesel engines also burn fuel inside the engine’s body, but the fuel is ignited by the heat generated by compressing the fuel-air mixture with a piston. The …

**The Future of Vehicle Engines**

In the second half of the 21st Century, vehicles will all be powered by hamsters running in circular cages connected to the drive train. The hamsters will take great joy in their work because…
Automating Heading Creation

It’s entirely possible for headings to simply be ordinary text that’s formatted in a particular way – appearance only. However, modern word processors provide a feature that gives headings a special identity, with an appearance being assigned to that identity. You can change the look of a level-1 heading without changing the fact that it is a level-1 heading. This arrangement gives headings “special powers”:

- The level of a heading’s identity associates it with a particular outline level.
- Headings can automatically be listed in a table of contents.
- An appearance change in one level of heading can be made to affect all headings of that level.

To turn ordinary text into a heading, highlight the text and then click the appropriate heading level selector in your word processor, as shown below:

**Microsoft Word** – Use the Style buttons at the top of the page:

**Google Docs** – Use the choices under the Normal Text dropdown:
You can either accept the default appearance of a heading, or you can customize it. If you customize it, you can alter the default appearance for that document, immediately changing all occurrences of the heading. To do this:

- In Microsoft Word, after changing the appearance, click in the heading to set the cursor. RIGHT-click on the style button and choose Update Heading to match selection.
- In Google Docs, click the Normal Text dropdown, then click the right arrow next to the name of the heading you wish to alter. Click Update ‘Heading’ to match.

Word Usage and Precision

As you write, remember the short “Spongebob and Patrick” and “Picture Password” exercises we did in class. Choose your words carefully so that they won’t be misinterpreted (e.g., “can” vs. “may”). Say exactly what you mean—use specific words (e.g., “hold” rather than “grab” or “retrieve”) that clearly express the desired action or concept. Don’t use slang or humor, because not everyone will understand that you aren’t being literal.

And most important: Remember that the only way you can be sure your audience will understand exactly what you intend them to is to test your materials before publishing them (or before turning them in to me!).

Remember the lament of the technical writer: “They did/thought what I told them to, not what I meant!”

Front and Back Matter Assignment Run-Through

The Technical Research Report Front and Back Matter assignment is the most difficult of the term, based on the number of errors that people make. There are four pages of instructions for the three-page assignment! Reading, understanding, and following these instructions is critical. Grading is severe: one grade increment penalty per error.

General Hints for the Whole Report

The “basic document format” is important, and applies to every page in the report: 1” margins, your name in the Header area against the right margin in “lastname, firstname” format, and a page number centered in the Footer area. Information in the header and footer is in body text font and point size.

There are several tricks that will make your life easier, saving time and helping with consistency:

- Use tabs to line things up, CTRL-R to push things to the right margin, and CTRL-E to center things. Do not use spaces for any of these.
- When centering, if you have an indent set on the first line of your paragraphs, the item won’t be truly centered between the margins. It will be slightly to the right of true center.
- Use automatic page numbering via Insert → Page Number. (Manual page numbering is actually very difficult.)
- If lines must be “no padding,” (no spacing before or after)
- When you want something to start at the top of the page, force the new page with CTRL-Enter (Command-Enter on Macs). Do not use blank lines to push text onto the next page.
• Make sure you don’t introduce blank lines in the Header or Footer area when you enter your name or the page number.
• When designing formats or creating content, remember that “Simpler is Better”.

The Cover Page

Points to note about the Cover Page:
• The top of the first line of text must be 4” from the top of the page.
• The four lines of text must be in the font family (e.g., Time New Roman) that you use for your body text. Other typeface instructions apply.
• The capitalization, position, spacing, and other format specifications will be graded rigorously.

The Table of Contents

The page title must be a real level-1 heading, in whatever style you have designed.

If you have used Word’s Styles or Google Docs’ Heading feature to specify Heading 1 and Heading 2 formats, you should insert an automatic table of contents (in Word: References → Table of Contents, in Docs: Insert → Table of Contents → pick the one with numbers). All level-1 and level-2 headings should appear in it. You may need to delete a duplicate title line that gets inserted when the table gets created. Remember to click on the table and update it before turning in your report.

If you manually create a Table of Contents be sure to include all appropriate headings (including the table of contents). Use tabs (consider “decimal tabs”) to line up the page numbers.

The Bibliography

The page title of the bibliography must be a true level-1 heading.

The references in the bibliography must be in the MLA/APA standard format: Double-spaced and hanging indent. The easiest way to do this:
  1. Copy the CitationMachine/EasyBib citations and paste them into the bibliography.
  2. Make sure there are no blank lines.
  3. Highlight them (but not the page title).
  4. Click the “No Spacing” style.
  5. Type CTRL-T to create hanging indents (or use the Paragraph dialog.)
  6. Type CTRL-2 to double space (or use the Paragraph dialog or Line Spacing button).
  7.

Brian’s cat is named Otter. If you’re wise, you’ll remember this.