There are several systems or formats for providing readers with sources of citations, direct quotations, research, facts, and opinions used in the preparation of written reports or documentation. The preferred format to be used in this course is the author-date system described in the Chicago Manual of Style, 16th Edition (University of Chicago 2010).

*Each author-date citation used in a document must have a corresponding entry in the Reference section under the same name and date. Similarly, each entry in the Reference section must be cited in the text of the document.* The Reference section is always arranged alphabetically, and is at the end of the document, before the Appendix if one exists.

**Voice**

“No person” voice is used in this course unless otherwise specified. Therefore, do not refer to the authors, team, or individuals responsible for doing the work in the text of the document. For example, first-person voice would be written as:

The team completed three test trials prior to finalizing the design.

The team is noted as being responsible for doing the work. In “no person” voice this sentence would be written as:

Three test trials were completed prior to finalizing the design.

It is implicit that the authors, i.e. the team, completed the testing. However, if testing was subcontracted it is appropriate to indicate as such:

Three test trials were completed by ABC Company prior to finalizing the design.

**Grammar**

*Do not (don’t) use contractions. They are unprofessional and inappropriate for formal technical writing!* Always use spellcheck and grammar check.

Be consistent in the use of verb tenses. By the time a document is written most of the work has been completed so past tense verbs should be used. If additional work is recommended or planned then future tense verbs may be appropriate. Noun-verb combinations must be compatible. Singular nouns require singular verbs and plural nouns require plural verbs such as:

Two trials of testing were conducted.

The test was conducted last week.
In-text Citations

The basic structure for citing in-text references uses the author’s last name, followed by its date of publication, and the page number(s), enclosed in parentheses such as:

(Petroski 1985).

If used with a direct quotation, include the page number(s) following the date, separated by a comma. If used to refer to the book or source in general without specific quotation, page numbers may be omitted.

Notice that there is a period after the parentheses in the above example. This means that the citation is at the end of the sentence. Ideally, a citation should be placed immediately following the information or source being referenced. For example,

According to Petroski (1985, 85), the Kansas City Hyatt Regency Hotel is “a synonym for the greatest structural tragedy in the history of the United States.”

In the above example the citation immediately follows the source, i.e. the name of the author. Because a direct quotation is used, the page number is also included. Notice also that the period at the end of the sentence is within the quotation marks.

Another option is to paraphrase the author’s words:

The failure of the Kansas City Hyatt Regency walkway is one of the most infamous tragedies in civil engineering history (Petroski 1985).

Because a direct quotation is not used in the above example, the page number may be omitted and the citation is located at the end of the sentence. Notice that the citation is before the period.

Another option is to include an entire direct quote:

“[T]he Kansas City Hyatt Regency Hotel became a synonym for the greatest structural tragedy in the history of the United States, and the grieving, accusations, investigations, and lawsuits would continue for years after the accident” (Petroski 1985, 85).

Here the page number is added to reference the exact location of the quotation should a reader wish to refer to it.

If a direct quotation is longer than approximately 40 words, it should be indented from both the left and right margins. In this case, quotation marks are not needed because the indentation and citation indicate that it is a quoted passage. Also, when using block quotations the reference is at the end after the period.
The work of the engineer is not unlike that of the writer. How the original design for a new bridge comes to be may involve as great a leap of the imagination as the first draft of a novel. The designer may already have rejected many alternatives, perhaps because he could see immediately upon their conception that they would not work for this or that reason. (Petroski 1985, 78)

Several authors or sets of authors may be used to reference a portion of text. For example:

A supportive learning environment can greatly influence a student’s ability to adapt and succeed especially during the period of transition and vulnerability that is characteristic of the freshman college experience (Bandura 1995; Brown, Lent, Alpert, Hunt, and Brady 1988; Hackett, Betz, Casas, and Rocha-Singh 1992; Lent, et al. 2003).

Notice that order of the references is listed alphabetically. However, the list of authors within a citation does not have to be alphabetical. In addition, if there were two Bandura references, the in-text citation would be in chronological order by year of publication:

...(Bandura 1995; Bandura 2002; Brown, Lent, ....)

If two works by Bandura were published in the same year, they should be listed as “a” and “b” as shown below:

...(Bandura 1995a; Bandura 1995b; Bandura 2002;....)

Each citation would be listed separately in the Reference section.

Reference Section

A typical Reference section entry includes the author, date of publication, place of publication, and publisher such as:


Notice in the above example the use of upper- and lower-case letters and that the reference is italicized since it is a book. First and last words in titles and subtitles and major words (nouns, pronouns, verbs, adjectives, and adverbs) should be capitalized. Articles such as “a,” “the,” and “an” and conjunctions such as “and,” “or,” and “but” should not be capitalized. Notice also that Chicago Manual of Style requires that the comma is within the quotation marks and that a comma should be used prior to “and” in a series.

With the increasing use of online research and sources, it is imperative to reference only reliable and credible electronic sources. In addition, anything posted on the Internet is “published” in the sense of copyright and must be treated as such for the purposes of complete citation and clearance of permissions, if relevant (Chicago 2010, 14.9). Within the last several years, electronic sources have been
Source Citations and Reference Guidelines

assigned a Document Object Identifier (DOI). The DOI number must be included in the Reference section citation. See examples in the next section.

Citation Examples

Below are several examples of the most common types of sources used in the preparation of research papers, project reports, laboratory reports, and other documents for this course. This listing is not meant to be complete or to require use of only these types of sources. Unlike many other referencing formats, Chicago Manual of Style requires the author’s full first name in the Reference section citation rather than just the first initial of the first name. However, in-text citations include last name(s) only.

- **Book with single author or editor**


  (Pollan 2006, 99-100)

- **Book with multiple authors**


  (Ward and Burns 2007, 52)

  If a book has three authors, list all three names in both the Reference section and in the in-text citation. For books with four or more authors, list all names in the Reference section entry, but use only the first author’s last name followed by *et al*.

  (Heatherton, Fitzgilroy, and Hzu 2008, 188-189)

  (Barnes et al. 2008, 118-19)

- **Book edition other than the first**


  (Strunk and White 2000, 65)

- **Book with organization as author (no specific person as author)**

  Abbreviating the name of the organization to make text citations more manageable is acceptable.


  (ISO 1997)
• **Journal article in print**

Include both volume number and issue number.


(Blair 1977, 331-32)

In the above example, “4” is the volume number and (2) is the issue number.

• **Journal article online**

Include DOI (preferred) or a uniform resource locator (URL) following normal reference list information.


• **Magazine article in print**

These are usually cited by date, not volume or issue.


• **Magazine articles online**

Include DOI or URL at the end of the reference.


• **Newspapers**

These are usually cited within the text. If a reference is required it follows the same format as citation.

Unpublished interviews

These are usually cited in the text and are not included in the Reference section. Citations should include the names of both the person interviewed and the date of the interview. For example:

According to John Doe, CEO of XYZ Corporation (personal communication, August, 18, 2011), orders increased by 4.2% last month.

Theses and Dissertations

Titles are in quotes similar to unpublished works. Include URL or DOI if accessed online, or identification numbers for commercial databases if used.


Websites and Blogs

Some websites refer to themselves by their domain name (the part of a URL following the double slash and ending in a domain type indicator such as .com or .org). Therefore, it is appropriate to use the name of the website rather than providing the entire URL. The website names are often shortened and capitalized for convenience, italicized, without quotation marks, and capitalized headline-style. For example,

The mission of Hulu (2011) is to “help people find and enjoy the world’s premium [online] video content when, where and how they want it.”

Specific citations of website content should include as much information as possible to permit review or retrieval of the source information. Include a URL, author (if any), date of publication or revision, and access date:


Databases

Follow recommendations of the applicable publication type. Include URL if included in the database. Include an access date if no publication or revision date is included in the database reference.

Source Citations and Reference Guidelines

GenBank (for RP11-322N14 BAC [accession number AC017046]. Accessed October 6, 2009.)

Equations

Equations must be created in an equation editor. They may not be typed as standard text. They are centered and sequentially numbered. The equation number is enclosed in parentheses and is aligned with the right-hand margin.

\[ I = \frac{bh^3}{12} \]  \hspace{1cm} (1)

Tables, Graphs, Charts, Figures, and Illustrations

Every table, graph, chart, figure, and illustration must be discussed and interpreted within the narrative. Do not simply cut and paste into a document! Explain contents, interpret results, and discuss implications, i.e. how results will be used.

Tables must be numbered such as Table 1 or Table 1.1. The table number and a succinct title that describes its contents are placed at the top. Each column in a table must have a title and include units of measure if appropriate.

Table 1. Average GPA of New Freshmen by Year Admitted

<table>
<thead>
<tr>
<th>Year Admitted</th>
<th>Avg. GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>2.53</td>
</tr>
<tr>
<td>2009</td>
<td>2.61</td>
</tr>
<tr>
<td>2010</td>
<td>2.58</td>
</tr>
</tbody>
</table>

Significant figures must be consistent. Avoid the use of bright shading or font colors as they are distracting to the reader.

Graphs and charts must include a legend only if two or more sets of data are represented, x- and y-axis titles, and units of measure. They must be numbered and titled, both of which are located at the bottom. Font size and type must be consistent with the body of the report.
The choice of graph types is important. Use line graphs, as shown above, to represent data over a period of time. Use bar charts to show differences between groups as illustrated below. Notice that a legend differentiates the data sets. Dark blue represents data for freshmen and light blue represents data for transfer students.
Graph 2. Average GPA of new freshmen and transfer students admitted in fall 2008-2010.

Be sure to leave sufficient white space before and after each table, graph, chart, figure, and illustration. Also, never end a section with one. You must include a brief transition narrative between it and the next section demonstrated by this paragraph.

**Section Headings**

Use section headings and as appropriate sub-headings to differentiate various parts of the narrative. This makes it easier for a reader to visually refer to specific information. All headings should use appropriate upper- and lower-case letters. The font for sub-headings must be different than that for section headings. Both are aligned to the left margin as shown below.

**Results**

[...text...]

*Computer Models*

[...text...]
Bulleted Lists

Bulleted lists must be parallel. In other words, all bullets must begin with a noun or a verb. Do not use both. Bulleted lists for technical writing are usually comprised of phrases rather than lengthy sentences. It is not necessary to include a period at the end of each bullet. Bullets may be symbols or numbers. The following bulleted list is not parallel.

1. Research existing designs
2. Identify design alternatives
3. Computer model
4. Test designs alternatives

This list is not parallel because all items except (3) are verbs, i.e. they show action. Computer model is a noun. This can easily be changed to:

- Research existing designs
- Identify design alternatives
- Develop computer model
- Test design alternatives

Notice that the list above does not include periods at the end. Periods at the end of a bulleted list are recommended for lengthy sentences or lengthy phrases that are used to complete a stem phrase. In the case of the latter, the bulleted items must be separated by semi-colons and the use of the word “and” between the last two bullets. For example:

The models were tested to determine if:

1. Dilution increased leakage at joints in the upper and lower casing;
2. Increased temperature affected material properties as indicated by frequency of maintenance; and
3. Quality was adversely impacted by increased rotational speed.

The stem phrase precedes the bulleted list. Although lengthy, each item in and of itself is a complete sentence when used in conjunction with the stem phrase. The use of the bulleted format in this case makes it easier for the reader to understand what the author is trying to say given the amount (and importance) of the information. Notice also that the list is parallel because all three bullets begin with nouns.