



**STYLE GUIDE FOR  
AFIT DISSERTATIONS, THESES AND  
GRADUATE RESEARCH PAPERS**

**July 2015**

**DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY**

**AIR FORCE INSTITUTE OF TECHNOLOGY**

**Wright-Patterson Air Force Base, Ohio**

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AND GRADUATE RESEARCH PAPERS**

**July 2015**

Graduate School of Engineering and Management  
Air Force Institute of Technology  
Wright-Patterson Air Force Base OH 45433-7765

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# **STYLE GUIDE FOR AFIT DISSERTATIONS, THESES AND GRADUATE RESEARCH PAPERS**

## **I. Introduction**

### **Overview**

A primary component of graduate education at the Air Force Institute of Technology (AFIT) is the scholarly presentation of research results. In most programs graduates must submit a dissertation, thesis, or graduate research paper as the final step in fulfilling degree requirements. These reports make a statement about the student and the quality of the student's research, the student's department, and AFIT's academic standards. Therefore, the purpose of this guide is to help students present their research results in a form that is acceptable to AFIT.

The student's research committee will guide the intellectual content of a student's research manuscript and may further specify certain aspects of style. This guide is intended to establish basic formatting requirements to ensure uniformity in the format and appearance of all manuscripts. Complying with the requirements listed in this guide will help students produce a research report in which they and AFIT can take pride, and it will help avoid format correction delays of the final submitted manuscript.

The *Style Guide for AFIT Dissertations, Theses and Graduate Research Papers* (more simply referred to as the *AFIT Style Guide*) contains formatting, documentation, document marking, submission requirements, and other relevant guidance for students in AFIT's Graduate School of Engineering and Management.

There are a number of aspects of format and features that should be followed consistently. Illustrations and equations should be presented in a consistent and standardized format. The appearance of chapter titles and subheadings within chapters is also standardized. Tables of Contents and Lists of Illustrations are required. This guide will help students establish the correct formats for these features. Students should adopt the preferred formats early in the writing process; following a standard format from the beginning will save time preparing the final report.

The *AFIT Style Guide* begins with general guidance in Chapter II. Chapters III and IV describe documenting information relating to your research subject. Chapters V and VI discuss format and visual presentation of material. Chapters VII, VIII, and IX address items associated with the completion of your dissertation, thesis or graduate research paper to include prefatory pages, supplementary materials, and final submission. A proofreading guide appears in Appendix A, and sample pages from theses and dissertations are included in Appendix C.

To understand how the guide can help, it is important to understand what it is not intended to do. Specifically, it is not intended to be a general grammar or usage manual, nor is it intended to be a word processing manual. The purpose of this guide is to provide information about the conventions of AFIT dissertations, theses or graduate research papers and to provide help in preparing those documents. Occasionally a research advisor will require a variation from the formats described in this guide. Unless a specific variation is directed by the research advisor, students should follow the guidance given here.

## **Responsibilities**

Producing a high-quality manuscript is a team effort in many ways. The following paragraphs briefly describe the responsibilities for the key team members.

### **Student Responsibilities**

Students have the primary responsibility for the content, scholarship, and appearance of the research manuscript. The goal is to ensure that the document properly represents and reflects well on the student, the research committee, the department, and AFIT. It is the student's responsibility to ensure that the manuscript meets the mandatory requirements presented in this manual and to submit a manuscript meeting a high standard of excellence.

The research advisor and committee members will work with students to determine and refine the thesis content and scholarship standards. They may even provide help with the composition and overall organization of the document; however, proofreading and other editorial chores are not the duties of research advisors. Students who need editorial assistance are responsible for securing it.

Students are responsible for ensuring that the manuscript follows conventional rules of grammar, punctuation, and spelling. Students are also responsible for structural formatting; this includes sentence structure, paragraph structure, and overall organization and flow of the document. Default settings in software packages may require modification to comply with this manual.

### **Advisor Responsibilities**

The student's advisor serves as a mentor throughout the research process. Although the student has primary responsibility for the content, quality, and format of the manuscript, the advisor should provide appropriate guidance as needed. The advisor, along with the student's research committee, reviews the final manuscript to ensure that it complies with format and appearance requirements, certifies that the final manuscript is ready for submission to the Thesis Processing Center (TPC), places the electronic manuscript file and all required forms on the appropriate share drive in a folder designated for the student, and notifies the TPC that the electronic manuscript is ready for processing. It is the advisor and committee's responsibility to ensure that the student's manuscript meets an acceptable standard of scholarship and reflects a level of research, originality, and style appropriate for the degree being received.

### **Thesis Processing Center Responsibilities**

The Thesis Processing Center (TPC) DOES NOT review manuscripts to ensure they comply with the formatting and appearance requirements specified in this manual; that is the advisor's responsibility. After a student's research advisor notifies the TPC, the TPC staff submits the manuscript to Public Affairs (PA) to obtain the appropriate distribution statement. After PA makes a determination regarding document distribution, the TPC submits the manuscript to DTIC, and then provides the electronic file to the AFIT library for retention and cataloging.



## **II. Structure of a Thesis, Graduate Research Paper, or Dissertation**

A thesis, graduate research paper, or dissertation is basically a report of research conducted. That is, it describes a question that has been asked about some significant issue, analyzes the data gathered to answer that question, and presents the results of the data analysis. It is not merely a long report. Because the research will rely on the ideas of experts in the field, and because it is necessary to describe and analyze the data collected, it will be essential to be accurate and thorough in the description of the systems and methods used and to show sources and discuss findings. Careful presentation of information is crucial if the thesis is to be accepted by the advisor and the Institute.

Research reports are typically constructed according to a five-chapter model:

Chapter 1: Background and Statement of the Problem

Chapter 2: Literature Review

Chapter 3: Methodology

Chapter 4: Data Description and Analysis

Chapter 5: Findings and Conclusions

It is important to recognize that this five-chapter outline is only a model. Not all theses, graduate research papers, or dissertations consist of five chapters. Some contain more; a few contain less. Some programs authorize modifications to the standard model, such as an inter-connected series of research articles. But all theses, dissertations, or variations thereof contain the basic elements indicated in the model. In addition, research reports may include appendices presenting additional technical material too detailed for easy inclusion in the main chapters. Most reports contain several illustrations, tables, or equations.

The primary components of a dissertation, thesis, or graduate research paper are the prefatory material (see Ch. VII, Prefatory Pages), the main body, and the supplementary materials (see Ch. VIII, Supplementary Materials.) The main body of the document may follow either a traditional format or a scholarly article format, as described below.

In addition to determining the appropriate format, the student and the research advisor must determine whether or not the report is appropriate for public release, or should have restricted circulation due to the sensitive nature of the contents (e.g. related to operational security or export control.). Chapter VIII, Supplementary Materials, provides detailed information about distribution statements.

## **Traditional Format**

The chapters in the main body of the document traditionally include an Introduction, Literature Review, Methodology, Results and Analysis, and Conclusions. The number of chapters and their titles vary depending upon the nature of the material to be presented.

## **Scholarly Article Format**

An alternative format uses scholarly article(s) (either published or ready for publication) as chapters in the main body of the document. Such chapters will include the same text and subsections as presented in a scholarly article (e.g., introduction, methodology, results, and conclusions).

If the scholarly article format is used, overall Introduction and Conclusion chapters should be provided to explain the context of the included scholarly article(s) and integrate the information coherently. Additional details about the literature review, methodology, results and analysis may be presented in other chapters or appendices as necessary.

Each scholarly article chapter must be formatted with the same margins, continuous page numbers, type, and line spacing as the remainder of the document. It is not acceptable to insert a copy or preprint of an accepted article in a format different from that incorporated in the other pages of the dissertation or thesis.

Careful attention must be given to copyright issues and the extent of the student's contribution to multi-author articles. Only articles with the student as a primary author should be included. A page clarifying the student's contribution to a multi-author article and/or documenting approval of inclusion from copyright owners may be inserted at the end of the chapter.

## **Graduate Research Papers**

For students in programs that require a graduate research paper (rather than a thesis or dissertation), the format requirements of the *AFIT Style Guide* apply to graduate research papers intended for public release.

### **III. Documenting Sources**

Advances in science, engineering, and all fields of research depend on the reliability of the research record, as do the benefits associated with them in areas such as national security. Sustained public trust in the research enterprise also requires confidence in the research record and in the processes involved in its ongoing development.

Students preparing a thesis, graduate research paper, or dissertation should be aware that their work is part of the greater research enterprise. Students are responsible for communicating their original data and conclusions comprehensively and with clarity to readers. Furthermore, students must give appropriate credit for any material they use from other sources in the course of their research. Proper documentation both acknowledges the work of others and better highlights, to the students' credit, where their contributions break from or add to past research achievements.

#### **Reasons to Cite Sources**

A basic principle of documentation is that writers must give credit for all of the material they use from other sources in the course of their research, that is, all material they did not create as primary data. In order to do so, writers should correctly incorporate a formal documentation method. There are four reasons why writers should show their sources: to give credit to the original author or authors; to establish their own credibility as writers; to establish a research path; and to avoid plagiarism.

Giving credit to the original author or authors: Giving credit to original authors is a form of academic courtesy, of acknowledging the individuals who helped to move the research forward. All research is built on the efforts of those who have gone before.

Establishing credibility as a writer: Correctly documenting sources shows that the writer has mastered not only the subject matter but also the relatively complicated formal documentation process. Being able to do both well helps to convince the reader that the writer is professional, competent, and knowledgeable. These characteristics help to establish the credibility, or believability, of the writer.

Establishing a research path: It is important to show which resources were used in conducting the research. The reader should be able literally to "follow the path" that the writer created in completing the research. This aspect is especially important when showing sources for key steps in the research process.

Avoiding plagiarism (and the appearance of plagiarism): In addition to showing the sources used, it is essential to follow the conventions of quoting and paraphrasing correctly. Incorrect quoting procedures, especially if quotation marks are not used when quoting sources directly, can give the impression of an unprofessional approach to writing at best, and a dishonest approach to writing at worst.

## **Presenting Source Information**

Source information is presented in one of four ways in the body of the report: by quote, by paraphrase, by summary, or by direct reference. In all cases, the source must be cited in a parenthetical citation and completely described in the bibliographic listing. Brief definitions of these four methods follow.

**Quote:** A quote or quotation (also called a direct quotation) occurs when a writer is indebted to a source not only for the source's ideas or facts, but also for the exact wording of those ideas; that is, the words of the source are used to communicate the ideas borrowed from the source. The exact wording of the source is shown by using quotation marks. The open quote marks and close quote marks must be present, and the words included between the open and close quote marks should be exactly the same as they appear in the original source. Any editorial changes (changes made by the writer) in the quote must be indicated by the use of brackets ([ ]) if adding words to or modifying the words of the source, or by the use of ellipses (. . .) if deleting words from the quoted passage. Ellipses are not used at the beginning or ending of quoted material, only within the quoted material. If the quoted passage is longer than four lines in the report, the quotation is shown by single spacing and extra indentation with no quotation marks. It is not easy to include quoted passages into the text and maintain a smoothly flowing style; it usually requires some revision of the text to create well-integrated quoted material.

**Paraphrase:** To paraphrase means to restate the words of the original source in your own words. The problem is that in some subjects the writer may not have the necessary familiarity with the topic to be able to use alternate phrasing that exactly captures the meaning of the quote. In that case, a mixture of paraphrase and quoted passages may work best. There is no simple answer to the problem of deciding how many words we may use from the source before we are required to show that we are quoting. A complete sentence taken from the source would certainly have to be treated as a quotation. But even a single word might have to be quoted, especially if it is a new technical word introduced or developed by the source. As a rule of thumb, three or more consecutive substantive words taken

from the source should be quoted as well as cited. In general, writers should use lengthy quotation sparingly. Short quotes are preferred to long quotes, and summaries are preferred to short quotes.

**Summary:** A summary is the writer's condensed version of longer sections or passages from the source. Thus, a sentence may serve as a summary of a paragraph, and a paragraph may serve as a summary of an entire article, much as an abstract does for a scholarly article.

**Direct Reference:** A direct reference is the direct use of the source's information, as in mathematical, statistical, or visual information. There is no such thing as quoting or paraphrasing a numerical value.

There are two general categories of source information: *quantitative* and *qualitative* information. Qualitative information pertains to information presented in words: ideas, techniques, processes, opinions, concepts. Quoting, paraphrasing and summarizing are all ways of representing qualitative information. Quantitative information pertains to numerical or statistical information. Direct reference is the method for representing quantitative information. Visuals used in a report can also be thought of as requiring direct reference as well. Regardless of the manner of representing borrowed information, all forms should include the appropriate citation.

## **Integrating Parenthetical Citations in Reports**

Let us imagine that we are writing about a widget production method. Using a hypothetical source, let us see how the source should be documented in a paper using a formal documentation method. We will say that our source is a book entitled *Modern Widget Production Processes*, written by Ralph Lloyd, and published in Dayton by Smith and Wesson Publishers in 2010. Using the AFIT Author-Year system (discussed in detail in the next chapter), the complete bibliographic listing would be:

Lloyd, Ralph. *Modern Widget Production Processes*. Dayton: Smith and Wesson, 2010.

A sample parenthetical citation used in the body of the paper could be: (Lloyd, 2010: 26). The 26 number indicates the specific page on which the referenced information was found.

If information discussed in an entire headed section is taken from a single source, the parenthetical citation may be placed immediately after the heading. Normally, however, the citation is placed in the narrative immediately following the discussion referring to the borrowed material. The citation is usually placed at the end of a sentence or at the

end of an independent clause. Any end-clause punctuation (period, comma, or semicolon) should be placed after the citation, as shown in this sample sentence from a hypothetical paper:

According to one expert, widgets were more expensive in the third quarter of the fiscal year (Lloyd, 2010:236).

An extensive passage from the source (four lines or more) should be cited at the end of the quotation; the citation follows two spaces after the period. And the quoted passage itself should be indented and single-spaced:

According to one expert, there were several reasons why widgets were more expensive in the third quarter of the fiscal year:

Although the price of widgets had been dropping slowly during the previous nine months, the price increased slightly. The increase in price was due to increased packing costs, increased shipping costs (because the packages were larger), and a delay in production caused by a workers' strike. (Lloyd, 2010:236)

No quotation marks are used in an extended quotation. Quotation marks are used only in shorter quoted passages (less than four lines). In general, citations should be placed in such a way as to interrupt the flow of the narrative as little as possible.

It is initially difficult to avoid seeing the task of integrating cited material into the report as anything other than a "cut and paste" job. Such an approach will result in a choppy and disconnected style, and readers will think that the writer is little more than a moderator serving to introduce a long line of guest speakers. To avoid giving this impression, the writer's comments should be blended with the ideas or comments of the sources as smoothly as possible.

One of the best ways to manage this situation is to use an appropriate lead-in phrase. Suppose, for instance, that a writer wants to summarize information contained in a source. Here is a typical example:

According to a study conducted at National Metals, contamination of alloys is a primary cause of parts failure (Smith, 1996:26). Investigators at National Metals tested 120 alloy samples in a six-month period and discovered that contamination was widespread. They concluded that "any reputable company must spend an adequate amount [of its operating budget] on quality control" (Smith, 1996:26). Officials at National Metals increased their budget for quality control as a result of this investigation. Stockholders in the company strongly supported management's actions (Smith, 1996:40). This example describes a company that followed its own advice.

Another company that followed its own advice is Union Plastics. . . .

In this example, the opening phrase, “According to a study conducted at National Metals,” alerts the reader to the fact that source material is entering the discussion, and the citation indicates where the information comes from. The direct quotation is followed by its own citation, which describes the factual information related to the number of tests; then two facts from the same source are presented (we assume from the same page of the source) before the next citation is given. Finally, the author draws an inference (that the company took its own advice) and transitions to the next section. This method of introducing source material should make it easy for the reader to separate the writer’s ideas from indebted material.

## **Multiple Citations**

Using multiple citations eases the problem of referring to similar information contained in several sources without spending an inordinate amount of time doing so. One example of multiple citation is:

Chi square analysis is a popular tool in data analysis (Jones, 2001; Wilson, 2005:89; Thomas, 2007:33).

Here, three sources are cited, the first in its entirety, and the other two with specific page numbers. This citation does not mean that the exact words were found in all three sources, but that the value of using the Chi square method was discussed and generally agreed upon by the authors cited. This method is much more efficient than writing something like

Jones recommends the use of Chi square analysis (2001). So does Wilson (2005:89). And so does Thomas (2007:33).

## **Second-hand Sources**

A second-hand source is a source that the writer has not seen directly but knows about because it is cited (or perhaps quoted) in a work the writer has been reading. For example, suppose that in an article by Jones, Jones refers to an article by Bernelli, summarizes its contents, and provides a bibliographic citation. The writer would like to include Bernelli’s findings in the report, but knows about them only as mentioned by Jones. Experienced scholars recommend that writers list in the bibliography (and cite) only those works that the writer has examined first-hand. There is a danger that the author (Jones, in our example) may have misread or misunderstood the article he is

describing (Bernelli's article). Or he may have made an error in reporting its contents. If the writer repeats what Jones says without looking at Bernelli's original work, the writer could repeat Jones' errors. There are two ways to deal with this situation. The first and best way is to obtain Bernelli's article. If, however, it is not possible to obtain the original, it should be stated as clearly as possible that the writer is referring to a second-hand source, as in this example: "Another experiment, conducted by Bernelli at Johns Hopkins University and reported by Jones in *Scientific American* (2002:98-100), found that . . . ." This phrasing informs the reader that the discussion is based on Jones' description, and the citation is to Jones' article; Bernelli's article does not appear in the bibliography. Even though readers might wonder why there is no citation for the original Bernelli article, they will understand that the writer is reporting only what Jones said Bernelli said. In general, students should be aware that the use of secondary citations is strongly discouraged.

## **Copyright and Copyright Infringement**

**Copyright** is a legal framework that protects how information is expressed, not the ideas and concepts contained in the information. In the U.S., copyright law is in Title 17 of the United States Code. **Copyright infringement** is the violation of the copyright owner's rights to control the reproduction of the work, and can result in payment of monetary damages to the copyright owner. Determination of copyright infringement is not always straightforward, and relies upon understanding of how to apply the four so-called fair use factors of Section 107 of Title 17 of the United States Code (usually abbreviated as 17 U.S.C. § 107) for determining when a use of a copyrighted material is a fair use and thus does not require permission or paying money.

## **Avoiding Copyright Infringement**

Authors are responsible for determining the copyright status of any materials they use, to avoid inadvertent copyright infringement. Government guidelines regarding copyrighted works are available at <http://www.dtic.mil/dtic/pdf/submit/copyright.pdf> , and answers to frequently asked questions on copyright are available at <http://cendi.dtic.mil/publications/index.html>. Please note that government documents and websites may contain information with copyright restrictions, even though works produced by U.S. government employees as part of their official duties are generally not copyrightable and are in the public domain.



Copyright infringement can usually be prevented by either asking permission to use the copyrighted material (with or without payment of a fee), or rewriting the ideas and concepts in the writer's own words. (Note: such rewrites of ideas must still be appropriately cited to avoid plagiarism.) A *Sample Format for Request for Permission to Use Copyrighted Material* is provided as Sample 32. AFI 51-303, Intellectual Property-Patents, Patent Related Matters, Trademarks and Copyrights contains related Air Force procedures and policies.

As a rule of thumb, almost any use of a graph, chart or any representation of an idea designed to more easily convey, or represent, an underlying fact, idea or concept, requires permission or payment. If the proposed use is in a text book or other item intended to be sold for a profit, payment is usually required. If the proposed use is in a thesis, the copyright owner is usually more flexible, often requiring a very precise format for attribution instead of a fee.

### **Copyright of AFIT Manuscripts**

Most AFIT students are U.S. government employees, and therefore most AFIT dissertations, theses and graduate research papers are in the public domain. The work of other students who attend AFIT is often subject to the standard intellectual property clauses of applicable Cooperative Research and Development Agreements and/or federal contracts. In such cases, the author may own the copyright, but the government reserves the right to disseminate the documents for government purposes. Students seeking advice concerning the copyright status of their particular document should confer with appropriate legal counsel.

## **IV. Documentation Systems**

In the past, the footnote system of citation was used in all academic institutions, but recent practice has adopted the parenthetical citation system. Footnotes may still be used, but not as a primary method of showing sources. There are many parenthetical citation systems in use, including those preferred by the American Psychological Association (APA), the Modern Language Association (MLA), the Institute of Electrical and Electronics Engineers (IEEE) and others. AFIT students should consult their advisors to determine which parenthetical citation system should be used. Three parenthetical citation systems are discussed in this chapter, the Author-Year system, the Numbered Reference system, and the IEEE reference system. Regardless of the documentation system used, bibliography entries are single-spaced with double-spacing between entries.

A formal documentation system includes both parenthetical citations and a list of sources (bibliography) at the end of the document. Complete source information for a source reference shown in a parenthetical citation must be presented in the complete bibliographic listing in the bibliography, and all sources listed in the bibliography must have at least one corresponding parenthetical citation in the body of the report.

Parenthetical citations are abbreviated references to the source, given in parenthetical format (using parentheses), and included in the report, typically at the end of the sentences or paragraphs in which the source information is presented. The parenthetical citation includes sufficient information to give the reader essential but incomplete information about the source. The information presented in a parenthetical citation may include the names of the authors, the title of the work, the year of publication, and the page number on which the information is found. Different formal documentation systems require different kinds of information within the parenthetical citation. Because the parenthetical citation does not include complete bibliographic information, that information is presented in the bibliography at the end of the document.

### **The Author-Year System**

The author-year citation system is particularly useful in scientific studies because currency of data is important; the form of the citation provides the author's name (or authors' names) and the date of publication at a glance. The author-year system used at AFIT is similar to the American Psychological Association (APA) system, but students should note that there are several major differences in the form of the entries, which are not discussed here.

In the author-year system, citations refer to sources listed in the bibliography at the end of the report. Sources in an author-year bibliography are not numbered; they are arranged alphabetically by first author's last name (see Sample 22). The citation includes the last name of the author (or authors), the year of publication, and the page number from which the borrowed information was taken. Thus, (Lloyd, 2010:26) refers the reader to page 26 of the work published by Lloyd in 2010. See Appendix B for citation examples.

In the author-year system, entries are alphabetized according to the last name of the author (or last name of the first author in multiple-author works). Even though the authors' names may not be in alphabetical order, the authors have determined the order of names among themselves and that order should be maintained. Multiple entries by the same author are arranged alphabetically by title; complete bibliographic information should be given for each entry.

The word *bibliography* is a term for the list of sources, included at the end of a report, for all items cited in the body of the report. The bibliography provides complete bibliographic information (author, title, publication data) to readers interested in identifying, and possibly obtaining, the sources.

## **The Numbered Reference System**

The numbered reference system was initially known as the Air Force parenthetical documentation system. It was in use for many years before parenthetical citation became popular in the academic world in general. The numbered reference system has its advantages and disadvantages. Its main advantage is that it results in less space required for citations. Its main disadvantage is that the reader may have to refer to the bibliography to identify the author and the currency of data. In the numbered reference system, each source in the bibliography is given an identifying number (see Sample 21). Sometimes the sources are arranged and numbered in alphabetical order, and sometimes in the sequence in which they are cited in the text. In general, sequential numbering is preferred when writing articles, while alphabetical numbering is preferred in theses and dissertations. The alphabetical arrangement makes it easier for the readers to use the bibliography as a reference source, while the sequential arrangement can aid the writer. Writers considering using the numbered reference system should confer with their advisors at the earliest opportunity to determine if the advisor prefers one order over the other. Each bibliography entry begins with a number followed by a period; each subsequent line is aligned with the first letter of the first line.

After the items in the bibliography have been numbered, appropriately numbered citations can be placed in the manuscript. The citation (6:27) indicates that the borrowed material is found on page 27 of the sixth source listed in the bibliography.

Here are some frequent variations of the form:

(6:27-33) Information is taken from consecutive pages 27 through 33.

(6:27, 33) Information is taken from nonconsecutive pages 27 and 33.

(6:27; 8:23-24; 9) Information is taken from three sources relating to the same topic.

(6:Sec II, 42) Separate sections of the work are paged independently.

### **The IEEE Reference System**

A number of engineering advisors prefer the use of the IEEE system for thesis and dissertation documentation, as described in *Information for IEEE Transactions and Journal Authors*. This documentation system is intended primarily for article publication, however, and sometimes may not accommodate the special documentation tasks required of theses and dissertations. All IEEE journals provide style guidance for authors on the back pages of the individual journals. Students should note that style guidance can vary from journal to journal; there is no set style which applies to all IEEE publications. Students should also be aware that the generally preferred IEEE parenthetical citation system is to use brackets [] to indicate parenthetical citations instead of parentheses () and to cite the article without reference to page number unless a specific quotation or fact is taken from the article.

This practice, while appropriate for the submission of articles for publication in journals, often is not sufficient for AFIT theses and dissertations. Students should discuss this matter with their advisors.

Here are two forms of the IEEE system:

[2] This reference indicates that the author is referring to a discussion of a source document in its entirety, rather than to a single page in that document. This method is suitable when the source document is a relatively short work and discusses a limited topic.

[2:122-23] This reference indicates specific pages of the source document. This kind of reference is appropriate for longer source documents or when specific facts, ideas, quotations, or equations are mentioned.

## V. Format

The term *format*, as it pertains to AFIT theses and dissertations, refers to the overall appearance of the text, the style of the text, the sequence of the information presented, the visual aids included in the text, and other non-textual characteristics such as equations and numerical representations. A standardized format ensures that all AFIT theses and dissertations are more or less alike, and it ensures ease of reader comprehension of the material presented in them. Any format feature which aids the reader is helpful; any format feature which confuses the reader is not helpful.

### Writing Style

In academic writing of the kind expected at AFIT, the following aspects are especially important: grammar, syntax, style, punctuation, and mechanics. Each of these aspects should be completed in as formal a manner as possible.

Writing style should be more formal rather than less formal. Writing style at AFIT should not be informal, or worse, conversational. Casual expressions, like *a lot of* noise, *a few* occasions, or a *huge* impact, should be avoided, because they are overused, imprecise, and vague. While informal or conversation expressions may find their way into draft versions of a paper, they should be eliminated during the revision process.

In more formal writing, no contractions are used. Abbreviations should be avoided, such as TV or US. The complete word or phrase should be written in full: television, United States. Acronyms are acceptable, but the full term of the phrase from which the acronym is derived should be written out in full the first time it is used with the accepted acronym shown in parentheses afterwards, as in: Society for the Prevention of Cruelty to Animals (SPCA). Thereafter use of the acronym is acceptable.

One other major aspect of formal style should be emphasized. In more formal writing at AFIT, first person voice is generally to be avoided. Attention should be drawn to the process being described, not to the person responsible for initiating the process. Thus the sentence, "I monitored the signal processing sequence on several occasions," would preferably be written as "The signal processing sequence was observed on several repetitions." Eliminating the active voice first personal expression may result in a sentence written in the passive voice. Most style guides, such as the Air Force's *Tongue and Quill*, recommend that the active voice be preferred over the passive voice. In this case, however, the passive voice sentence, written according to the standard formal syntax pattern described above, has the advantage of emphasizing the key element of the

process, the signal processing sequence, rather than the person who initiated or observed the sequence. Another strategy to use to avoid first person voice is to animate the process: “The signal proceeded from point A to point B.”

## **Margins and Spacing**

The side (left and right) and bottom margins must provide 1¼ inches of white space, and the top margin must provide 1 inch. These measurements apply to all pages in the document, including those containing visual aids and all items placed in the appendices. These specifications should be kept in mind, especially when formatting tables, figures, and computer printouts.

All text should be double spaced except for the following instances:

Lists and tabulations, including bibliographies - Items in a list should be double-spaced, with a single space between lines within each item. This spacing must be used in bibliographies and other lists with short (two or three line) entries. When items in a list are essentially part of the running text, single spacing is not required.

Quotations more than three typed lines long - The left margin of long quotations should be indented at least five spaces from the normal left margin. If the first sentence of a long quotation begins a paragraph in the original source, the beginning of that sentence may be indented an additional five spaces (Note: this extra indentation is optional). Writers may also indent the right side of the quotation five spaces (Note: this additional indentation is also optional). Quotation marks should not be used to enclose these long, single-spaced quotations. The citation follows the period of the final sentence of a long quotation. Every line of long quotations should be indented.

## **Headings and Subheadings**

Rankings of headings should be distinguished by their appearance or placement on the page (see Samples [15](#), [18](#), and [19](#)). The five levels of headings and their appearance are described below. Few theses or dissertations will require more than four levels of headings. All headings (except for the first level—the title) are repeated in the table of contents.

The first level of heading is the manuscript title. The place for qualifying conditions, methods, or limitations to the subject matter belongs in the abstract or the body of the text, not in the title. Critically inspect the modifiers and modifying phrases in your title

and eliminate unnecessary words. The title of the report appears on the title page, committee approval page, and at the top of the first page of Chapter I. In all three cases, it is written in full capitals and centered horizontally. On the first page of Chapter I, the title is placed three vertical lines below the normal one-inch top margin (see [Sample 15](#)). If necessary, the title can be divided into two (or more) lines. The first main heading for Chapter I is placed four vertical lines below the last line of the report title.

The second level of heading is a main heading (chapter title, each portion of the appendix, and the bibliography). The main headings start on a new page, and are centered 1¼ inch below the top of the page (except for Chapter I, as noted above). Individual words in the main heading are underlined, italicized or emboldened. The first letter of the first word is capitalized, as are all other words except articles, short prepositions, and short conjunctions. The narrative of the chapter begins three spaces below the last line of the main heading (chapter title). Titles of individual papers used as chapters in the scholarly article format should be formatted as main headings.

The third level of heading is a subheading. This is the kind of heading we usually think of when we think of headings inserted into the body of the report. Subheadings begin flush with the left margin. They may be underlined, italicized, or emboldened to contrast the subheading from the text. Subheadings are preceded by a triple horizontal space and followed by a double horizontal space. The first letter of the heading is capitalized, as are all other main words, as in main headings. Periods are not placed after subheadings.

The fourth level of heading is a sub-subheading. Sub-subheadings are indented one Tab bar, underlined, italicized, or emboldened, and are followed by a period. Sub-subheadings are both preceded and followed by a double horizontal space (see [Samples 18](#) and [19](#)). Capitalize as in main headings and subheadings.

The fifth level of heading is the sub-sub-subheading. This level of heading is indented two Tab bars, but otherwise the same rules apply as for sub-subheadings.

## **Fonts**

The font size must be no larger than 12 pt. for serif fonts (e.g., Times New Roman, Cambria) and no smaller than 10 pt. for sans serif fonts (e.g., Arial, Calibri). Any legible font within this range except script, italic, or ornamental font is acceptable for the main body of text. The most commonly used fonts include Times or Times New Roman (12 pt.) and Arial (11 or 12 pt.).

The same font must be used throughout the entire document; this includes page numbers, table/figure numbers and captions, and references. Superscripts and subscripts should be no more than two points smaller than the font size used for the main body of text.

Writers should avoid excessive underlining, bolding, or italicizing text. The use of bolding and italics may be used to help distinguish headings. All titles of books or periodicals should be italicized. Foreign words or phrases or all non-standard words or phrases should be italicized. Italics, not quotation marks, are used for emphasis. Quotation marks should be used only when quoting from a source or showing the title of an article.

### **Avoiding “Widows and Orphans”**

Writers should avoid creating “widows” and “orphans” in the text. A “widowed” line occurs when only one line of text in a new paragraph is placed as the last line on a page, or when a heading is placed at the bottom of a page with no text beneath it. An “orphaned” line occurs when the top of a page contains only one line of text. Text should be moved as necessary to avoid these isolated lines of text.

### **Page Numbering**

Page numbering excludes the cover page. The disclaimer, title page, and approval page are counted as pages, but are silently numbered (i.e., the numbers are not actually printed on these pages.) Thus the first physically printed, numbered page in a thesis is the abstract. Starting from the abstract, number all remaining prefatory pages in lower-case Roman numerals (iv, v, vi, vii, etc.). Prefatory pages include the table of contents, lists of figures, lists of tables, and any preliminary information.

The remainder of the document (the main body, starting with the first page of the narrative of the report and any supplementary material) is numbered using Arabic numerals sequentially straight through the document. The sequential “straight-through-the-text” method uses a single series of Arabic numbers beginning with the first page of the text and continuing through the text, including appendices, bibliography and vita. Sequential numbering makes it easier to fill out the SF Form 298, which requires a total page count.

Center both Roman and Arabic page numbers in the bottom margin about  $\frac{3}{4}$  inch from the bottom of the paper.



## VI. Non-Narrative Elements

To be fully effective, any material not in narrative form (tables, figures, equations, list of symbols, units) should be planned and prepared with the same care as if it were part of the textual material. In general, when introducing non-narrative elements into a text, they should be clearly explained to ensure that the reader can logically follow the purpose and the kind of information it is intended to convey. It is not true that they can speak for themselves; they must be developed and integrated into the text with as much care as the text itself.

There are a number of distinguishing features associated with tables and figures, and the distinctions between them should be understood clearly. Basically, a *table* consists of data arranged in columns and rows. A *figure* is any visual aid that is not a table. Figures typically include illustrations, graphs, schematic diagrams, photographs, and flow charts. Tables and figures are identified separately in the text and in the prefatory pages. The primary reason for distinguishing between tables and figures is that tables are statistical summaries of data, while figures are visual representations of things or concepts.

### Tables

Tables are a convenient means for presenting quantities of data for easy review and comparison. Separate the columns of tables by lines or by white space. Each column should have a heading, written horizontally if possible. Units (such as dollars, pounds, meters) are listed in the column heading rather than in the column data elements, unless the elements include mixed units. In numerical tables, align items on the decimal point unless they represent different values (like dollars, marks, and francs).

Center table numbers and titles *above* the table (see [Sample 16](#)). Citations to acknowledge indebtedness for information provided in tables may be included immediately after the table title, or they may be placed beneath the table, flush right with the table's edge.

## Figures

A figure may be prepared in any manner, as long as the result is a clear, not smudged design capable of easy reproduction in the reprinting process. You may submit original drawings or designs in black reproducible ink, or you may submit high contrast copies in place of originals. To be suitable for scanning, copies must be clear, sharply defined, and free of gray background shading. Figure numbers and titles are centered *below* the figures (see [Sample 17](#)). Citations to acknowledge indebtedness for material contained in figures may be included in the figure title, or they may be placed beneath the figure, flush right with the figure's edge.

*Graphs* are a type of figure useful for displaying values of continuous data. *Charts* are useful for displaying values of discrete data. Bar charts (either vertical or horizontal) and pie charts have the advantage of being relatively easy to design. Pictographs and other types of charts are also effective ways to present data. *Photographs* must be clear and professional in appearance. Color will be used in theses and dissertations only when essential to capture technical meaning or content. Pages containing visual aids should be numbered in the same way as other pages, and normal margin widths must be maintained.

## Incorporating into the Text

All figures and tables must be cleanly presented and suitable for reproduction. Margin requirements for pages containing figures or tables are the same as those for all other pages of text: one inch at the top and one and one-quarter inches on all other margins. It is preferable to three blank lines above and below tables and figures that are adjacent to text in the document in order to provide obvious visual separation from the text. Visuals may be *boxed* (enclosed with lined boundaries) to provide additional visual separation from the text. Titles should be placed outside the boxes (see [Samples 16](#) and [17](#)).

The title for a table or figure must be sufficiently complete that it accurately describes the content of the graphic. The graphic and its title should be sufficiently self-contained so that if it was extracted from the document, the reader could still understand the purpose and the content of the graphic.

Thus, titles like “Variables” are inadequate; titles like “Values of Variables Used in Experiment Two” are better. Titles are not complete sentences. Figures are usually

numbered in a consecutive series of Arabic numerals beginning with the first figure in the text and continuing throughout the document, including supplementary material.

In the title, either the word “Figure” or the abbreviation “Fig.” is acceptable; consistency is important. In the text, most advisors prefer the use of the word rather than the abbreviation. In the text, the words “figure” and “table” are capitalized when they are used with a number in reference to a specific graphic (for instance, “Figure 3 displays the distribution of the data points”).

Arabic numerals should be used for tables and figures. Tables and figures are numbered in separate series, so that if there is one table and one figure in text, they would be shown as Figure 1 and Table 1. The most common way to number either tables or figures is to begin with the first of each type that appears in the text and assign successively higher numbers to others that appear throughout the text and in appendices.

Visual aids should not appear in the text until they have been referred to in the text. The wording of the text should prepare the reader for the appearance of the graphic by introducing it. The visual aid should be located in the text as soon as it will conveniently fit in the available space. If there is not adequate room on the same page, it should be placed at the top of the following page. In such cases, the text of the page on which the visual aid is introduced should continue to the bottom of the page; no extra white space should be left at the bottom of the page. Regardless of their actual width (up to the maximum of 6 inches), visual aids should be treated as if they occupied the full width of the page. Visual aids should be centered between the left and right margins. No narrow column of text should be placed beside a graphic. Tables and figures that are too wide to fit on the page in their normal orientation may be rotated 90 degrees counterclockwise to the right (non-bound) edge of the page. Thus, for figures, the title is located parallel to the right margin, centered beneath the figure. For tables, the title is parallel to the left margin, centered above the table. Normal margin widths must be maintained.

## **Equations**

Simple, short equations or formulas which are not critical to the development of main ideas in the text and which will be mentioned only once are placed in the text on the lines in which they occur. These “in text” equations are both preceded and followed by a double space. If punctuation follows the equation, it is placed after the double space. For example, a simple “in text” equation would appear as  $F = ma$  . Equations placed in the text in this fashion are not numbered.

More often, equations are formally “displayed” rather than being placed “in text.” Displayed equations are centered on the page, numbered, and their symbols (ensure you include units or dimensions) are defined. Equations are identified by the number originally applied to them in their first appearance in the text. An appropriate amount of spacing is provided above and below the equation, and the terms are usually italicized. This is an example of a “displayed” equation:

$$F = ma \tag{1}$$

Where  $F$  is *force*,  $m$  is *mass*, and  $a$  is *acceleration*.

Alternately, the terms may be defined in a list below the equation:

$$F = ma \tag{1}$$

Where

$$F = \textit{Force} \text{ (N)}$$

$$m = \textit{mass} \text{ (kg)}$$

$$a = \textit{acceleration} \text{ (m/sec/sec)}$$

A series of equations should be aligned on the equal signs wherever possible:

$$E = IR \tag{2}$$

$$26XY - 12 = 14(X + Y) \tag{3}$$

A long equation is begun at or near the left margin, broken before an operational sign, an arrow, or an equal sign, and ended near the right margin, leaving room for the equation number. If a statement introducing an equation is a complete independent clause, it is followed by a colon. Otherwise, no punctuation is used after the introductory element. And even though an equation ends a sentence or other complete grammatical structure, no punctuation is placed after a displayed equation.

A displayed equation should be set apart from the text by at least one extra vertical space above and below it. A single displayed equation should be centered horizontally. Parentheses, brackets, integral signs, summation signs, and similar symbols should be as high as the expressions they include. Connecting words such as “hence,” “therefore,” and “but” should be typed flush with the left margin with at least one vertical line spacing above and below them.

## **Symbols and List of Symbols**

Wherever possible, the symbols used in the report should be those that are accepted as standard in the field. If there are many symbols or if they are spread throughout the report, they should be identified in a list of symbols (usually in the prefatory material or in an appendix). If no such list is included, each symbol is normally defined where it is first used. In longer reports or where a substantial number of symbols are used, symbols are defined where first used even though a list is included in the prefatory material.

If symbols are defined in the text, the definitions are normally placed immediately following the formula or equation in which they are first used, often in a list or series that completes the sentence. If they are defined in a series, the word “where” is placed at the margin, and the series completes the sentence.

If they are placed in a list, the word “where” is placed at the margin, and the definitions are placed in a column (sometimes two columns) aligned on the equal signs.

## **Units**

In the presentation of data, the International System of Units (SI) is to be used instead of the usual United States measures. For example, the base quantity length uses the SI base unit meter (m); mass uses kilograms (kg); time uses second (s). If necessary to use non-SI measures, then values converted to SI units should be displayed in parentheses immediately following the non-SI measure.

## **VII. Prefatory Pages**

Prefatory material includes the following: title page, disclaimer statement, approval/signature page, abstract, optional dedication, optional acknowledgments, table of contents, list of figures, list of tables, and list of notations or symbols (if applicable).

### **Prefatory Material Order**

1. Title Page (unnumbered)
2. Disclaimer (silently numbered-i)
3. Flyleaf (silently numbered-ii)
4. Approval/Signature Page (silently numbered-iii)
5. Abstract (numbered-iv)
6. Dedication (optional) (numbered\*)
7. Preface or Acknowledgments (optional) (numbered\*)
8. Table of Contents (numbered\*)
9. List of Figures (numbered\*)
10. List of Tables (numbered\*)
11. List of Notations or Symbols (optional) (numbered\*)

\* Remaining prefatory pages are consecutively numbered, printed in lower case Roman numerals. (For example: vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv, xvi, etc.)

## **Title Page**

The title page contains the following information below the AFIT crest: title of the document, the identifying word “DISSERTATION,” “THESIS” or “GRADUATE RESEARCH PAPER;” the name(s) and rank(s) of the author(s), the document designator, institution identification information and the distribution statement (see Samples [1](#) and [2](#)). This information is centered.

## **Disclaimer Statement**

The *disclaimer statement* indicates that the opinions and ideas contained in the document are those of the student or students and are not to be construed as representing official policy of the United States Air Force (or other government organization that sponsored the student’s attendance at AFIT, if applicable).

The standard disclaimer statement is:

“The views expressed in this dissertation are those of the author and do not reflect the official policy or position of the United States Air Force, the Department of Defense, or the United States Government.” (see [Sample 3.](#))

The statement may be revised as needed to reflect other organizations involved in the research effort or affiliated with the student, for example:

“The views expressed in this thesis are those of the author and do not reflect the official policy or position of the United States Air Force, the United States Army, the Department of Defense, or the United States Government.”

International students may consider using the below disclaimer statement:

“The views expressed in this document are those of the author(s) and do not reflect the official policy or position of the United States Air Force, the Department of Defense, the United States Government, the corresponding agencies of any other government, the North Atlantic Treaty Organization or any other defense organization.”

## **Copyright Declaration**

As indicated in the copyright section, most AFIT students are U.S. government employees, and therefore most AFIT dissertations, theses and graduate research papers are in the public domain. If this is the case, please add the following statement under the disclaimer:

“This material is declared a work of the U.S. Government and is not subject to copyright protection in the United States”.

## **Flyleaf Page**

The contents of the title page are the document designator, title of the document, the identifying word “DISSERTATION,” “THESIS” or “GRADUATE RESEARCH PAPER;” the supervising department and school to which it is submitted (in the case of dissertations, only the school), the degree and specialization for which the document was prepared, the name(s) and rank(s) of the author(s), the month and year of graduation, and the distribution statement. Information on the title page should reflect the correct month and year. Where there are two or more authors, their names are placed in alphabetical order. The information is spaced and centered.

For authors who are non-federal employees, a copyright notice “Copyright © student’s name and year” may be inserted at the bottom of the title page, if applicable. (See Copyright section in Chapter III for further information about copyright status.)

## **Committee Membership Page**

Committee membership pages are required in dissertations and theses. Information on the page includes the document designator, the title of the document, and the name (with degrees previously earned) of the author, a complete list of committee member names and roles (see **Samples 7** and **8**), and the name of dean of the school for dissertations only. Information is centered and spaced.



## Abstracts

The abstract is included in the prefatory material (see [Sample 9](#)). All AFIT dissertations, theses and graduate research papers actually contain two abstracts, one in the text and one located in the appropriate space on the SF 298. The abstract included in the SF 298, at the end of the thesis, is limited to an absolute maximum of 200 words. Keep this in mind when considering your “prefatory” abstract. It is preferable to write one good, 200-words-or-less, abstract and use it both in the prefatory page version and on the SF 298 form.

The abstract summarizes the information contained in the report. The main items to be described in the abstract include the problem statement, the methodology followed in the thesis, the findings, and the conclusions. The reader should be able to discover the content and the methods used in the thesis by reading the abstract. The abstract is not an introduction; it is a succinct statement of the important aspects of the thesis.

Writers of dissertations, theses, and graduate research papers should remember that abstracts are usually republished in other reference volumes or electronic databases to help specialists keep informed about developments in their field or to provide a means of identifying reports that they may want to obtain and read.

## Dedication Page

The dedication page is optional. If a dedication is used, it should be centered on the page and in *italics*. The dedication should be brief and no heading is necessary. A dedication is typically no more than four lines and is used to recognize individuals important to the author who may have provided support not appropriate for inclusion on the acknowledgement page (see [Sample 10](#)). It is prohibited to include any personal identifying information in the following categories: social security account numbers; home addresses; dates of birth; telephone numbers other than which are appropriately made available to the general public; and names, locations and any other identifying information about friends and family members. [See AFI 33-332](#) for more information.

## **Preface or Acknowledgments Page**

The acknowledgments page is optional. If used, it is a place to acknowledge the assistance you received. For example, you may have received significant guidance from an individual for whom no source items are listed in the bibliography, but whose contribution to your results should be recognized. Only persons who provided professional help should be acknowledged. Non-professional personal help should be recognized on a dedication page, not the acknowledgements page. The acknowledgments should be concise and to the point, and should not exceed one page (see [Sample 11](#)). Guidance and assistance from the committee chair and committee members are usually acknowledged. Substantial help from other faculty members, librarians, laboratory personnel, sponsoring organizations, or members of outside organizations may be acknowledged. Because the acknowledgements page is an informal statement from the author to the reader, it is usually written in the first person, and the reader may be addressed in the second person. Elsewhere in the report, third person is the more conventional form. It is prohibited to include any personal identifying information.

## **Table of Contents**

Headings in the table of contents list the contents of the document from cover to cover in the sequence in which the content appears. The table of contents is a topic outline of the report, with page numbers added to indicate where each section begins (see [Sample 12](#)). A linking row of dots (periods) connects the topic with the page number. There should be double spacing between the main sections, and the main sections should be aligned. The page number column should be right justified. The wording of headings and subheadings in the body of the report and in the table of contents must be identical. Main document sections, subsections, and (when present) sub-subsections are listed with progressive indentation of subordinate headings to indicate relationships of topics described.

Roman numerals are used to label main sections - thesis or dissertation chapters. In the table of contents all prefatory material should be listed except the cover, disclaimer, title page, approval page and the table of contents itself. All lists of figures, tables, and symbols (if any) should be included in the table of contents. All supplementary material is also listed. Each appendix is listed with its letter designation and a descriptive title; the title of the appendix should be identical to the title shown in the table of contents.

## **Lists**

Most theses and dissertations contain lists showing the titles and locations of figures and tables contained in the report. Where it would be helpful to the reader, a list of symbols or notations is also included. Similarly, a short list of definitions of specialized technical terms may be included in the prefatory material (1-2 pages). Longer lists of definitions or symbols should be placed in back matter supplements.

The *list of figures* includes all figures, whether they are in the text itself or in appendices. The term “figure” means all graphic aids except tables. Figures include drawings, photographs, flow charts, wiring diagrams, and so on. The layout of the list of figures is similar to that of the table of contents (see [Sample 13](#)). Each figure is assigned an Arabic number and given a descriptive title. A page number should be provided for every figure in the report.

The *list of tables* includes all tables that appear in the document, in the sequence in which they are presented. The format is similar to that of the list of figures or table of contents (see [Sample 14](#)). Most thesis research advisors prefer the use of Arabic numbers for both figures and tables. Figures and tables should be numbered separately.

Students occasionally include an alphabetical list of all symbols used in the report and give their definitions. Even though each individual symbol in the text may have been defined when it first appeared, and even though the symbols may be relatively common in the field, a list of symbols (sometimes called “notation”) can be a convenience to the reader.

Students may also include lists of specialized technical terms and their definitions, or lists of acronyms as an appendix. These can be titled glossaries of technical terms or lists of symbols, abbreviations and acronyms. In either location, the terms in the list are alphabetized. The existence of such a supplemental list or appendix should be mentioned in the appropriate location in the body of the report.

## **Document Designators**

For each dissertation, thesis, or graduate research paper, the Thesis Processing Center assigns an identifying alphanumerical designator that appears on the cover, title page, approval page, abstract, and SF 298. Students should receive their designators from the Thesis Processing Committee the first week of the quarter in which they will graduate.

## VIII. Supplementary Materials

The supplementary materials in a dissertation, thesis, or graduate research paper consist of the parts of the document that are placed after the last chapter of the report. Supplementary materials consist of the appendices, bibliography, vita, and the Standard Form (SF) 298.

### Appendices

An appendix contains material that supports the text; its contents explain or present further details about some portion of the text. Large sets of data are contained in appendices. These include data from which an extended series of curves was developed, or computer programs, calibration procedures, sample calculations, sample survey or interview forms, lengthy quotations or draft publications, or other details that could distract or delay the reader if they were placed in the body of the text (see [Sample 20](#)). Generally, the discussion within an appendix is confined to a single topic.

Approvals (or certifications, assurances, training, etc.) required by Federal laws and guidelines that students obtain in order to complete their research are placed in separate appendices. Examples of such approvals are: Human Subject Exemption Approvals or Human Subject IRB Review Approvals; Animal Care Approvals; or Controlled Substances Approvals, such as Chemical, Biological, or Radioactive Materials Approvals.

Multiple detailed topics typically require multiple appendices. Each appendix should begin on a new page. If there is only one appendix, it should be called simply “Appendix,” and given a descriptive title, as in “Appendix: Data Tables.” Multiple appendices should be assigned successive capital letters: Appendix A, Appendix B, and so on. Each appendix should have a unique title. The appendix letter and title should be centered at the top of the page in the same fashion as other main headings in the report are prepared. Separate title pages for appendices are not necessary. Margins and other format features of appendices are the same as for normal pages of the text.

The Table of Contents should list the appendix letter, descriptive title, and page number. The existence of each appendix should be mentioned at an appropriate place in the text. For example, where the discussion of a particular curve begins, an author might write, “The data from which this curve was plotted are shown in Appendix C.” As another

example, the Introduction is an appropriate place to reference the appendix containing information about required approval processes.

## **Vita**

Each AFIT thesis and dissertation may conclude with a brief, one-page, biographical sketch (or vita) of the author or authors (see [Sample 23](#)). The vita should be written in the third person and include the most important facts about the student's military or civilian professional career.

Students with extensive military or federal service should focus primarily on information related to the field in which the AFIT degree will be granted. The narrative should end with the student's entry into AFIT, or, if known with certainty, the follow-on assignment. In theses having more than one author, the vita for each author is placed on a separate page and the pages placed in alphabetical order according to the first letter of the author's last name.

It is prohibited to include any personal information in the following categories about U.S. citizens, DOD Employees and military personnel: social security account numbers; home addresses; dates of birth; telephone numbers other than duty officers which are appropriately made available to the general public; and names, locations and any other identifying information about family members.

## **For Official Use Only (FOUO)**

Information that has not been given a security classification pursuant to the criteria of an Executive Order, but which may be withheld from the public because disclosure would cause foreseeable harm to an interest protected by one or more Freedom of Information Act exemptions (see list in Chapter C3 of DOD 5400.7R), shall be considered as being for official use only (FOUO). No other material shall be considered FOUO.

## Distribution Statements and Destruction Notices

The appropriate Department of Defense distribution statement [http://www.dtic.mil/dtic/submit/distribution\\_statements.html](http://www.dtic.mil/dtic/submit/distribution_statements.html) must be placed on the title page and SF 298 (see [Sample 24](#)) of each thesis, graduate research paper, and dissertation produced at AFIT, in any format. These distribution statements should be included *in addition* to classification statements as needed (see “A Reference Guide for Military DOD Documents” AD-A423966), since technical information may require limited distribution subsequent to declassification. The distribution statement is indicated on the Document Distribution Memorandum (see [Sample 25](#)).

The Air Force also requires a Destruction Notice to be placed on the title page of all technical documents that are classified or have Distribution Statements B-F; that is, all limited distribution documents. The Department of Defense Directive 5230.25, “Withholding of Unclassified Technical Data from Public Disclosure,” and Department of Defense Directive 5230.24, “Distribution Statements on Technical Documents,” states the policy for marking and disseminating DOD technical documents.

Students should:

- Be aware that DTIC documents may be governed by limitations of distribution of information the document contains. This information should be clearly shown on the SF 298 that accompanies these documents.
- Be sure to make copies of the SF 298 (or the earlier DOD Form 1473) from any DTIC document you use which carries a limited distribution statement (i.e., whose DTIC number begins with a prefix other than ADA.) Be certain that the copy clearly shows the distribution statement and the name of the controlling agency.

When preparing the final bibliography for the thesis or dissertation, students should count the number of limited distribution documents listed in the bibliography.

- If no limited distribution documents have been cited, and if the research advisor has no other reason for limiting distribution of the report, the use of Statement A is appropriate. Students should follow the approval procedures described below.
- If one or more limited distribution sources have been cited, the thesis or dissertation may need to be limited to the same level of distribution as its most restricted source. For example, if the source is limited by the restraints of Statement D, the report may be limited by the restraints of Statement D (described below).

Students should consult their thesis or dissertation research advisors to determine the proper distribution statement to use. The distribution statements (Statements A through X) and the explanations of their use are found in Appendix D. These statements are applicable only to documents prepared by DOD agencies.

### **Document Distribution Memorandum**

To ensure that the proper distribution statement appears on the dissertation, thesis or graduate research paper and copies are sent to the appropriate recipients, the research advisor should sign the Document Distribution Memorandum (see [Sample 25](#)).

Clarification on Part III of the Document Distribution Memorandum is as follows:

1<sup>st</sup> End- this should be the student's research advisor. Address to the research advisor's department (ex. "TO: ENG").

2<sup>nd</sup> End- this should be the Department Head for theses and the Dean for dissertations.

Please note the Department Head has the authority to designate someone else as long as it is not the research advisor. This approval is only required for documents with a limited distribution.

When the completed thesis is turned in, make sure all information is still correct. (Verify that the Distribution Statement selected is the correct statement for the thesis or graduate research paper and that the memorandum is signed by the primary research advisor and the Department Head.)

### **Report Documentation Page (SF 298)**

Every dissertation, thesis and graduate research paper must include the Report Documentation Page known as the Report Documentation Page (SF 298) (see [Sample 24](#)). The instructions for completing the SF 298 are included in [Sample 24](#).

## **IX. Preparing and Submitting the Final Copy**

The Thesis Processing Center (TPC) provides students a list of deadlines for key events linked to graduation, including the submission date for dissertations, theses, and graduate research papers. The TPC provides this information at the beginning of the quarter in which students intend to graduate. Students should ensure that they know these dates and meet the deadlines.

### **Submission of Final Copy**

When completing the final version of the thesis, graduate research paper, or dissertation, please review the “Research Report Proofreading Guide,” found at Appendix A. Materials must be submitted in electronic format and accepted on or before the established final acceptance date in order to graduate.

### **Electronic Manuscript**

The electronic manuscript must be formatted as an Adobe Acrobat Portable Data File (\*.pdf), with the exception of non-print product attachments. The complete document, exactly as approved by the research committee or appropriate authority, must include the DTIC Form 530 (if applicable) and the SF 298 as the last pages of the file. Students should not use password protection on this file. All electronic files are to be named using the document designator. For example, the electronic file for the thesis designated AFIT-ENP-12-M-03 should be titled “AFIT-ENP-12-M-03.pdf”.

### **Final Processing**

After the completed dissertation, thesis, or graduate research paper has been accepted and approved by public affairs, the TPC will submit the document to DTIC. The Dean for Research office will send dissertations, theses, and graduate research papers to the



sponsors (if the sponsor is listed on the SF298), at their request, with a note of appreciation.

## Appendix A. Research Report Proofreading Guide

This guide may be used to check theses, graduate research papers, and dissertations. It does not cover every error, but it does illustrate the most common errors.

### Document Designator

Make sure you have the correct designator and check all pages on which it appears:

- Title Page
- Committee Membership Page
- Abstract
- SF Form 298
- Checklist of Thesis (or Dissertation) Documents and Receipt

### Thesis Title

Make sure the thesis title is the **SAME** on all of the following:

- Title Page
- Committee Membership Page
- Top of the first page of Chapter I
- SF Form 298
- Document Distribution Memorandum

### Title Page

Check the Title Page for format. Make sure the graduation month and year are correct—for example: **March 2012**.

## SF 298 Form

Check to assure all information is included on the Report Documentation Page (SF 298). Follow the instructions given in the *AFIT Style Guide* (See Chapter VIII).

- **Do not capitalize all the letters of the title.**
- Capitalize everything that is supposed to be in caps – such as the document designator.
- Include complete *sponsor* address information in Block 9.
- Block 14 (Abstract). Maximum of 200 words.
- Make sure Block 15 contains several appropriate subject terms.
- Make sure the **page count** is correct in Block 18. This is the total number of pages in the document, including the cover page and prefatory material.

## Document Distribution Memorandum (Limited Theses, Distribution B-F ONLY)

With the assistance of your research advisor and/or sponsor, please *verify* that Distribution Statement selected is the correct statement for your thesis or dissertation, and that the document distribution memorandum is signed by your primary research advisor and department head. See Appendix D for sample Distribution Statements.

## Table of Contents

- Be sure to put the word “**Page**” above the number column on each page of the Table of Contents. (see [Sample 12](#)). This also applies to the List of Figures, List of Tables and any other lists included.
- Make sure titles are *exactly* the same as the titles on page listed.
- If a title has two lines, the second line should be single-spaced under the first. **Do not** indent the second line; the second line should have the same left margin as the first line.

## Matching Titles

Go through each page of the report to make sure that the title is *exactly* the same in the Table of Contents or List of Tables/Figures as it is on the actual page. This is where most errors are found in reports.

## Chapter Headings

Check the chapter headings to see that they are in the proper format. See Chapter IV of the *AFIT Style Guide*.

- [Sample 15](#) of the *AFIT Style Guide* has the format for the first chapter, (which has the title of the thesis at the top of the page). ***Only Chapter I has the title of the thesis at the top of the page!*** If the thesis title has two lines, double-space and center the second line under the first line.
- Headings on chapters, tables, figures, appendices, etc., may be single- or double-spaced. Center the second line of the heading under the first line of the heading; ***be consistent*** throughout the report.

## Margins

Spot-check the margins. The top margin should be 1 inch; the other margins should be 1-1/4 inch. Page numbers should be approximately 3/4 inch from bottom. Chapter IV of the *AFIT Style Guide* has guidance on this subject.

## Bibliography

Check format of bibliography. (see [Samples 21](#) and [22](#))

***Important.*** Check for AD Numbers—if different than ADA (ex: ADB); it may require a “limited” distribution. ***AD numbers should be set up correctly***, i.e., (ADA123456).

Other items to watch for:

- Make sure the citations in text correspond with entries in Bibliography.
- Make sure the entries are in alphabetical order.
- There should **not** be a comma between city and state.
- Use 2-letter state abbreviations.
- There should **not** be a period after abbreviated military ranks.
- There should **not** be periods between D and C in Washington DC.

## Vita

Check the vita for proper format in accordance with Chapter VIII (see [Sample 23](#)) of the *AFIT Style Guide*. In the case of dual authors, each author provides a separate vita.

## Page Numbers

Be sure that all pages that should be numbered are numbered. Make sure all pages are present and in the correct order.

### Hints for Page Numbering in Word

1. On the Page Layout Tab, Page Setup Box, click “Breaks” and select Continuous Section Breaks at the following points:
  - a. The end of the title page
  - b. The end of the abstract page
  - c. The end of the last page that requires roman numerals
2. On the disclaimer page, double click the bottom of the page to activate the footer.
3. On the Header/Footer Design Tab, Navigation Box, unselect “Link to previous section” to ensure that the footer is not connected with the previous section.
4. Repeat step 3 each time the page numbers change format.
5. The first visible page number should be on the abstract page. Go to this page, select the Insert Tab, Header and Footer Box, select “Page Number”.
6. Insert a centered Arabic numeral page number.
7. Highlight the page number and select the format from the location listed in step 5.

## **Appendix B. Citation and Bibliography Examples**

### **Citations**

These are some of the more common variations of the basic parenthetical citation form:

(Lloyd, R., 2010:236) Works by two (or more) authors named Lloyd are listed in the bibliography. Reference is to the work written by R. Lloyd.

(Lloyd, 2010b:236) Two works by Lloyd published in 2010 are listed in the bibliography; one is listed as Lloyd, 2010a, and the other is listed as Lloyd, 2010b. The works are assigned their “a” and “b” listing on the basis of alphabetical order according to the titles.

(Lloyd, 2010:236-242) Reference is to a series of consecutive pages.

(Lloyd, 2010:236,242) Reference is to two separate pages, page 236 and page 242.

(Lloyd, 2010:236; Brown, 2001:112) A reference to two sources who discuss the same ideas or information. Multiple sources can be placed in one citation as long as the topic of discussion is reasonably narrow.

(Lloyd and Brown, 2010:236) A work by two authors; Lloyd is listed first on the title page.

(Lloyd and others, 2012:16) A reference to a work by three or more authors. It is also acceptable to list all authors, though three authors is normally the most listed in this fashion: (Lloyd, Brown, and Smith, 2012:16). It is preferred to say “and others” as opposed to the older “et al.”

(Lloyd, undated:236) A reference to a publication with no publication date indicated.

(Lloyd, 2010:4-3 to 4-5) Pages are numbered by section.

(Lloyd, 2010:Ch 6, 11) Separate chapters of the source are paginated independently. Reference is to page 11 of Chapter 6. (This form of pagination is not common.)

## Bibliographies

The following paragraphs illustrate the Author-Year bibliography format that can be used in AFIT graduate research papers, theses, or dissertations.

### Books

The bibliographic entry for a book is divided into three sections, each separated from the other by a period: Author. Title. Publication data. Publication data include the city of publication (and the state or country of publication if the city is not well known), the name of the publisher, and the year of publication. Military or civilian titles of authors are normally not included in bibliographies, nor are the names of the institutions for which they work. When several cities are given, use the first city listed. When several different dates are given on the title or copyright page, the most recent date should be used. Here are some commonly used forms:

[Simple entry:]

Maybeck, Peter S. *Stochastic Models, Estimating, and Control*. New York: Academic Press, 1988.

Note: A sample citation would be: (Maybeck, 1988:26).

Note: Multiple sources by the same author are arranged alphabetically by title.

[Two authors:]

D'Azzo, John J. and Constantine H. Houpis. *Linear Control Systems Analysis and Design*. New York: McGraw-Hill Book Company, 1989.

Note: A sample citation would be: (D'Azzo and Houpis, 1989:26).

Note: When the basic bibliographic entry runs to two lines, the second line is indented; indenting the second line makes it easier for the reader to identify the author's name listed in the parenthetical citation.

[Three or more authors:]

Martin, John L. and others. *The Old Ethics and the New Military*. Boston: The High Times Press, 1991.

Note: A sample citation would be: (Martin and others, 1991:26).

Note: It is also permissible to include the names of all authors instead of saying “and others.”

[Later edition:]

Crouch, George W. and Robert L. Zetler. *A Guide to Technical Writing* (4<sup>th</sup> edition). New York: The Ronald Press Company, 1984.

Note: A sample citation would be: (Crouch and Zetler, 1984:26).

Note: Later editions often contain much new or revised material. The term “second printing” technically means a second printing of the book using the original plates, with no new material added. Some publishing houses are inconsistent in their use of this term.

[Essay in a collection of essays:]

Emmelhainz, Larry M. “Total Quality Management in Air Force Logistics Planning,” In *Total Quality Management in the Department of Defense*. Ed. Wayne Stone. Alexandria VA: The Freedom Press, 1990.

Notes: A sample citation would be: (Emmelhainz, 1990:26)

Note: In this example, Emmelhainz is the author of one of the articles or essays included in the book.

Note: The state is included (in Post Office abbreviated form) because the city of publication might not be easily recognized.

## **Periodicals**

A periodical is defined as any professional journal, magazine, newspaper, newsletter, pamphlet, booklet, brochure, or any other form of publication that is published in regular intervals (daily, weekly, monthly, bi-monthly, quarterly, or annually) in a numbered series. The volume number and date of the issue in which cited material appears should be specified.



[Simple entry:]

Vaughan, David K. "The Image of the Engineer in the Popular Imagination, 1880-1980," *Bulletin of Science, Technology Society*, 10: 301-304 (December 1990).

Note: A sample citation would be: (Vaughan, 1990:302).

Note: In the above entry, the numbers 301-304 refer to the inclusive page numbers on which the article is found. The page number indicated in the citation refers to a specific page from which a quotation was made or information presented.

[Two authors:]

Jannerone, August G. and Ray E. Stratton. "Trouble in Costa Mesa: An Airpower Case Study in Peacetime Engagement," *The DISAM Journal*, 14: 99-108 (Winter 1992).

Note: A sample citation would be: (Jannerone and Stratton, 1992:100).

[Three or more authors:]

Thomas, Margaret, Gloria Jaffe, J. Peter Kincaid, and Yvette Stees. "Learning to Use Simplified English: A Preliminary Study," *Technical Communication*, 39: 69-73 (February 1992).

Note: A sample citation would be: (Thomas, Jaffe, Kincaid, and Stees, 1992:70).

[Newspaper article:]

Wilson, Arthur. "The New Europe and National Defense," *The Dayton Daily News*, 23 March 2002, sec. A2.

Note: A sample citation would be: (Wilson, 2002:A2).

Howell, William. "The Leaner, Meaner Air Force," *The Air Force Times*, 15 February 2011: 6.

Note: A sample citation would be: (Howell, 2011:6)

[Unsigned article (no author listed):]

“View from the Top, The,” *Quarterly Review of Economics*, 22: 53-55 (Summer 2002).

Note: A sample citation would be: (“View from the Top,” 2002:54).

Note: This unsigned (no author given) source should be alphabetized among the Vs. Articles like *the* or *a* may be moved to end of the title, or they may keep their original location, as long as there is standardization within the bibliography. In the author-year system of documentation, the citation in the text would use the first few words of the title. Quotation marks or italics would also be included in the parenthetical citation as they are shown in the complete bibliographic listing.

### **Government Publications**

To the extent possible, bibliographic entries for government publications should resemble those of books: Author. Title. Publication Information. Because most government publications are not attributable to a single author (or to any identified authors), the issuing component or agency is usually listed as the author. Descriptive numbers or phrases (such as document numbers, series numbers, or contract numbers) should be included. As with books, the title of the publication is italicized.

[Report:]

Bureau of the Census. *Population Estimates and Projections*. Report Series P-25; No. 108. Washington: Government Printing Office, 2000.

Note: A sample citation would be: (Bureau, 2000:26).

Note: “Government Printing Office” is usually abbreviated as GPO.

[Instruction:]

Department of the Air Force. *Communications: Air Force Standard Functional Address System*. AFI 10-6. Washington: HQ USAF, 22 January 2002.

Note: A sample citation would be: (Department, 2002). The complete title would be mentioned within the report as necessary.

Note: Other Air Force or DoD instructions, directives or policy statements would follow this format.

[Law:]

United States Congress. *National Security Act of 1979*. Public Law No. 193, 96<sup>th</sup> Congress, 1st Session. Washington: GPO, 1979.

### **Independent Publications**

This diverse group includes all publications except books, periodicals, and government publications. It includes manuals, brochures, pamphlets, conference proceedings, dissertations, theses, and other forms of published data. As nearly as possible, the information listed in an entry should resemble that provided for books. Because each publication is produced to meet the needs of the sponsoring organization, many unique documentation signals may appear on the title page or elsewhere, including company names, contract numbers, revision dates, division names, and committee names. The bibliographic entry should include enough of this peripheral information to enable readers to evaluate the worth of the document and to obtain it if they wish to do so.

[Thesis (AFIT):]

Carpenter, Dennis M. *Relating Expected Inventory Backorders of Safety Stock Investment Levels*. MS thesis, AFIT/GIM/LSM/86S-15. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1981 (AD-A1103970).

[Dissertation (AFIT):]

Neumann, David W. *Observation and Analysis of LiCa and MiMg Excimers*. Air Force Institute of Technology (AU), Wright-Patterson AFB OH, June 1980 (AD-A1113137)(ON7229905).

Note: Both DTIC and University Microfilms order numbers are included in AFIT dissertations.

[Dissertation (non-AFIT):]

Miro, Donald J. *A Comparative Evaluation of Relaxation Training Strategies Using EMG Biofeedback*. Ph.D. dissertation. Loyola University of Chicago, Chicago IL, 1981 (ON8119983).

Note: The University Microfilms order number is included as a convenience to the reader.

[Conference paper:]

DeWispelare, Aaron R. "Algorithm Efficiency in Generating Non- denominated Solution Sets," *Proceedings of the IEEE 12th Annual Symposium in Systems Theory*. 218-222. New York: IEEE Press, 1980.

[Research report:]

Blair, Morton F. and Milburn J. Werle. *The Influence of Free-stream Turbulence in the Zero Pressure Gradient Fully Turbulent Boundary Layer: Interim Report, 1 June 1982-1 June 1983*. Contract F49620- 78-C-00064. East Hartford CT: Adkins Research Center, September 1983 (AD-A1913094).

[Company brochure:]

Dynocanque Task Group. *Procedure for Retrofit of the Dynocanque II*. Dealer Maintenance Bulletin 8-48. Philadelphia: Engineering Department, Hodges Manufacturing Company, July 1982.

*Honing Supplies*. Product Catalog X-SP-50502. St. Louis: Sunnen Products Company, no date [1982].

Note: Information in brackets indicates information not found in the document itself but obtained elsewhere. In the example above, the writer learned from communicating with company personnel that the catalog was printed in 1982.

### **Unpublished Sources**

Unpublished sources are sometimes used for information not available through usual channels. The source may be an individual or an agency in industry, government, the

academic world, or elsewhere. While the material may be available in printed form, it is not “published” in the usual sense of the word, and it may not be easily available to those who might wish to obtain it. While the form of bibliographic entry may vary, the reader should be given sufficient information to evaluate the quality of the source and to be given a reasonable chance of obtaining it. The information provided about these sources should match as nearly as possible the information provided for published sources: author, title (if any), description of the material, name and location of the originating organization or agency, and the date of issuance. Because the source is not a published work, the position or title of the author is often included to indicate the person’s authority in the subject area.

[Speech:]

Antonellis, Kevin B., Assistant Secretary of State, Middle East. “A Riddle Wrapped in an Enigma [Analysis of the Current Middle East Situation].” Address to Air Force Institute of Technology students and faculty. Air Force Institute of Technology, Wright-Patterson AFB OH. 8 January 1985.

[Class lectures or handouts:]

Dean, William A. Class handout, SYS 228, Basic Configuration Management. School of Systems and Logistics, Air Force Institute of Technology, Wright-Patterson AFB OH, July 1986.

Note: Instead of the month (“July 1986”), the quarter (“Summer Quarter 1986”) may be listed.

[Correspondence:]

Murray, Doris. President, Telemetrydynamics Corporation, Long Beach CA. Personal Correspondence. 1 April 1991.

[Electronic message:]

HQ USAFE. “Advanced Contract Administration and Contract Law Site.” Electronic Message. 151500Z, 20 May 1988.

[Telephone interview:]

Smith, C. Ross. Vice-President for Sales, Telemetrydynamics Corporation, Long Beach CA. Telephone interview. 9 April 1991.

[Personal interview:]

May, Marian C. Vice-President for Manufacturing, Telemetrodynamics Corporation, Long Beach CA. Personal interview. 10 May 1991.

Elrod, William B. Chief, B-1 Electronic Equipment Branch, Air Force Materiel Command, Wright-Patterson AFB OH. Personal Interview. 8-9 July 1990.

[Memorandum:]

Aeronautical Systems Division, Air Force Materiel Command. Memorandum of Agreement with Air Force Contract Maintenance Center. Wright-Patterson AFB OH 18 September 1989.

[Contract:]

Aeronautical Systems Division, Air Force Materiel Command. Contract F36980-81C-0396 with Northrup Corporation. Wright-Patterson AFB OH, 12 October 1990.

[Report (unpublished):]

McNichols, Charles W. and Roger T. Manly. "Quality of Life in the United States Air Force: A Quick Look Report." Report to DCS/Personnel, HQ USAF, Washington DC. June 1988.

Franke, Milton P. "The Effects of High Altitude Ablation on Air Force Readiness." Unpublished Report No. 4328. Air War College, Maxwell AFB AL, 1983.

Wyte, Lois E., Director of Production Engineering. "Schedule for 1989 Changeover in Assembly Plants." Report to Directors of GMC automotive divisions. Fisher Body Division, General Motors Corporation, Warren MI, 8 July 1988.

[Television program:]

*Wall Street Week*. Prod. Louis Rukeyser. Public Broadcasting System. WDPR-TV, Dayton OH. 30 September 1990.

[Radio program:]

*All Things Considered.* Prod. Noah Adams. National Public Radio. WGUC, Cincinnati OH. 2 February 1992.

[Computer software:]

*Readability Plus.* Version 1.0, IBM, 512k, disk. Computer software. Scandinavian PC Systems, Rockville MD, 1990.

[CD-ROM:]

“Qualitative Research.” *A Guide to Research Methods.* Version 2.0. CD-ROM. New York: Sage Publishers, 1997.

Note: If you are citing an article published in another source but found on a CD-ROM, list the original source first in standard bibliographic format, then add the information about the CD-ROM.

### **World Wide Web and Similar Electronic Databases**

The World Wide Web is quickly becoming a major source of ideas and information for researchers. Although a great deal of information may be found on the Web, writers should realize that information obtained on the Web is ephemeral. That is, the information may be impermanent, tentative, and subject to change practically on a daily basis. Information found on the Web may not be traceable in the same manner that a published article or book will be. Therefore, writers should be cautious about including information found on the Web. Information found on the Web should be cited in the same fashion as any other source, with a few minor modifications.

The entry should begin with the author's name (if known), the title of the article or document, the organization, company, or individual responsible for establishing and maintaining the web site, and the date the information was last updated. The entry should conclude with the date on which the information was found. The following is an example of a bibliographical entry for information found in an article of the speed of sound on the Wikipedia web site:

“Speed of Sound.” *Wikipedia.Org.* Wikimedia Foundation, Inc. 16 October 2014. Retrieved on 22 October 2014.

The appropriate citation would be: (“Speed of Sound,” 2014).

Here is another example:

“Doolittle Raid: Fact Sheets.” *National Museum of the U. S. Air Force*. 16 October 2014. Retrieved on 22 October 2014.

The appropriate citation would be: (“Doolittle Raid,” 2014).

More commonly, information is found on a web site that is an electronic version of a printed source. Here is an example of an article from the *New York Times* that first appeared in printed form on 15 March 2014 but which was accessed on the Web on 16 October 2014:

Forsythe, Michael, and Michael S. Schmidt, “Radar Suggests Jet Shifted Path More Than Once.” *New York Times*. 15 March 2014: A1. NewYorkTimes.Com. 14 March 2014. Retrieved on 22 October 2014.

The appropriate citation would be: (Forsythe and Schmidt, 2014).

No page number would be given in the citation because the online version is not paginated.

Entries should be consistent throughout the report, both in citations and bibliographic entries.

### **Classified Sources**

In an unclassified thesis or dissertation intended for open publication, no reference is to be made to classified reports. Even unclassified sections of classified reports are not to be cited or used in unclassified theses or dissertations. Writers and their advisors should discuss the matter with the controlling authorities.

### **Documentation Style Guidelines: Other Resources**

The following sources should be consulted for information pertaining to other documentation and bibliographic systems. No dates are given; users will want to obtain the latest editions.

American Chemical Society. *American Chemical Society Style Guide and Handbook*. Washington.



American Institute of Physics. Publications Board. *Style Manual for Guidance in the Preparation of Papers*. New York.

American Mathematical Society. *A Manual for Authors of Mathematical Papers*. Providence RI.

American Psychological Association. *Publication Manual of the American Psychological Association*. Washington.

Associated Press. *The Associated Press Stylebook*. Dayton OH: Lorenz Press.

*The Chicago Manual of Style*. Chicago: University of Chicago Press.

Council of Biology Editors. Style Manual Committee. *CBE Style Manual: A Guide for Authors, Editors, and Publishers in the Biological Sciences*. Bethesda MD.

Gelfand, Harold and Charles J. Walker. *Mastering APA Style: Student's Workbook and Training Guide*. Washington: American Psychological Association.

*Harvard Law Review: A Uniform System of Citation*. Cambridge MA.

Hodges, John C., and others. *Harbrace College Handbook*. New York: Harcourt Brace Jovanovich.

Modern Language Association. *The MLA Style Guide*. New York.

Turabian, Kate L. *A Manual for Writers of Term Papers, Theses, and Dissertations*. Chicago: University of Chicago Press.

United States. Government Printing Office. *GPO Style Manual*. Washington.

In addition, most professional journals contain style guidelines which editors of those journals require potential authors to follow in preparing articles for publication. A few representative journals are indicated below:

*The Academy of Management Journal*  
*The Academy of Management Review*

## **Appendix C. Sample Thesis and Dissertation Pages**

**Sample 1. Cover, Single-Author Thesis**



**SHORT, CONCISE AND GENERAL  
THESIS TITLE**

THESIS

Joseph Q. Public, Captain, USAF  
AFIT-ENY-12-M-25

**DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY**

**AIR FORCE INSTITUTE OF TECHNOLOGY**

---

**Wright-Patterson Air Force Base, Ohio**

DISTRIBUTION STATEMENT A. APPROVED FOR PUBLIC RELEASE;  
DISTRIBUTION UNLIMITED.

**Sample 2. Cover, Dual-Author Thesis**



**SHORT, CONCISE AND GENERAL  
THESIS TITLE**

THESIS

Joseph Q. Public  
Captain, USAF

Jane R. Doe  
Captain, USAF

AFIT-ENY-12-M-25

**DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY**

**AIR FORCE INSTITUTE OF TECHNOLOGY**

**Wright-Patterson Air Force Base, Ohio**

DISTRIBUTION STATEMENT A. APPROVED FOR PUBLIC RELEASE;  
DISTRIBUTION UNLIMITED.

### **Sample 3. Disclaimer Statement**

The views expressed in this thesis are those of the author and do not reflect the official policy or position of the United States Air Force, the Department of Defense, or the United States Government.

***See copyright information. If applicable, add:*** This material is declared a work of the U.S. Government and is not subject to copyright protection in the United States.

**Sample 4. Thesis Title Page, Single Author**

AFIT-ENY-12-M-25

SHORT, CONCISE AND GENERAL THESIS TITLE

THESIS

Presented to the Faculty

Department of Systems and Engineering Management

Graduate School of Engineering and Management

Air Force Institute of Technology

Air University

Air Education and Training Command

In Partial Fulfillment of the Requirements for the  
Degree of Master of Science in Engineering and Environmental Management

Zachary S. Belcher, BS

Captain, USAF

March 2012

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**Sample 5. Thesis Title Page, Dual Author**

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THESIS

Presented to the Faculty

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Graduate School of Engineering and Management

Air Force Institute of Technology

Air University

Air Education and Training Command

in Partial Fulfillment of the Requirements for the

Degree of Master of Science

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Captain, USAF

Gregory F. McCoy, BS  
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March 2012

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Captain, USAF

December 2012

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Captain, USAF

Committee Membership:

Glen P. Smith, PhD  
Chair

Lt Col Larry W. Jones  
Member

Amanda A. Adams, PhD  
Member

**Sample 8. Dissertation Committee Membership Page**

AFIT-ENY-DS-14-M-05

DISSERTATION TITLE

David E. Doe, BS, MS  
Captain, USAF

Committee Membership:

Alice M. Thomas, PhD  
Chairman

John H. Thomas, PhD  
Member

Maj Margaret J. Wilson  
Member

ADEDJI B. BADIRU, PhD  
Dean, Graduate School of Engineering and Management

## **Sample 9. Abstract**

AFIT-ENY-12-M-25

### **Abstract**

The purpose of this research was to improve the effectiveness of organizational meetings, thereby reducing the waste from ineffective meetings. Specifically, this thesis sought to answer three research questions addressing the essential elements for effective meetings, the benefits from productive meetings, and the information and skills critical to conducting meetings. The research questions were answered through a comprehensive literature review, and the use of the Delphi Technique. However, the solicitation of meeting materials from 16 Malcolm Baldrige National Quality Award winners and 90 Fortune 1,000 firms provided additional information. Seven experts, representing Air Force and industry, participated in two rounds of the Delphi Technique. The research identified the need for a concise and realistic length management tool to instruct managers on how to conduct effective meetings. Further, research highlighted that few corporations in industry have such a tool, even among those firms recognized as being the pinnacle of quality.

The culmination of this effort was the development of an effective meeting management guide to outline and discuss the key elements for preparing and conducting organizational meetings. Recommendations to implement effective meeting management training using the guide are discussed.

**Sample 10. Dedication Page**

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*To Father and Mother*

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## Sample 11. Acknowledgments

### Acknowledgments

I would like to express my sincere appreciation to my research advisor, Lt Col Jacob Doe, for his guidance and support throughout the course of this thesis effort. The insight and experience was certainly appreciated. I would, also, like to thank my sponsor, Capt Janet Doe, from the Air Force Materiel Command for both the support and latitude provided to me in this endeavor.

I am also indebted to the many maintenance professionals who spent their valuable time explaining the processes and procedures they used in the maintenance of their support equipment. Special thanks go to TSgt Lynn Doe, who served as my liaison and was always available to answer my questions.

James C. Doe

vi

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## **Sample 15. First Page of Thesis**

# MEASURING USER SATISFACTION OF THE ELECTRONIC MAIL SYSTEM AT AIR FORCE MATERIEL COMMAND HEADQUARTERS AS AN INDICATOR OF THE SYSTEM'S EFFECTIVENESS

## **I. Introduction**

### **General Issue**

The Air Force Materiel Command (AFMC) has installed a local area network designed to connect 3,000 users throughout its headquarters at Wright-Patterson Air Force Base. One of the principal goals of the network is to provide users with a powerful electronic mail system capable of meeting the users' communications needs (Strong, 1993).

The AFMC initially allocated \$9 million to fund the network project which began in May, 1991 (Strong, 1993). Currently, 2,600 users are connected to the network through a series of 35 file servers. The network is managed by AFMC's Office Automation staff with TRW, Inc. acting as the primary contractor.

### ***Detail One.***

This local area network and its electronic mail system represent a major investment in an information system which is considered to be the model for the Air Force. For example, this system has already been installed at Air Mobility Command Headquarters at Scott Air Force Base and is

*Note: This sample also illustrates the first four levels of headings. The thesis title is included since this sample is for Chapter I. Later chapters do not include the title.*

## Sample 16. Table in Text

for estimating demand for reparable aircraft parts. American Airlines Decision Technologies Division developed a PC-based decision support system called the Rotable Allocation and Planning Systems (RAPS) to provide forecasts of rotatable parts demand.

**Table 2. Summary of Models**

MODEL	METRIC	MOD-METRIC	VARI-METRIC	DYNA-METRIC
Indenture	Single	Multiple	Multiple	Multiple
Echelons	Multiple	Multiple	Multiple	Multiple
Number of Items	Multiple	Multiple	Multiple	Multiple
Location	Multiple	Multiple	Multiple	Multiple
Demand Assumptions	Steady state, independent, and stochastic demand (Poisson)	Steady state, independent, and stochastic demand (Poisson)	VTMR > 1, independent, stochastic, Poisson demand. Pipeline quantities have negative binomial distribution	Dynamic instead of steady state. Stochastic, multi-period. Considers time dependent scenarios.
Objective	Minimize expected backorders	Minimize LRU backorders	Maximize aircraft availability	Readiness, sustainability, and sortie generation

RAPS provided a multi-million dollar benefit for American Airlines, upon initial implementation, through the identification of over and under allocated parts (Tedone, 1989:62).

**Note:** The existence of this table was referred to on a previous page of the thesis.

**Note:** This page also includes an example of an AFIT Author-Year parenthetical citation.

### Sample 17. Figure in Text

were extracted from the article “Distribution and Repair In Variable Environments (DRIVE) Model Logic” by Richard Moore and Bob McCormick (McCormick and Moore, 1992).

#### Section 1 - The DRIVE System

The Weapon System Management Information System (WSMIS) is a decision support system that assesses logistics support, focusing on weapon system availability. DRIVE makes up two modules within WSMIS; D087J (Classified DRIVE) and D087K (Unclassified DRIVE). DRIVE extends the WSMIS approach of logistics capacity assessment to the Air Logistics Center (ALC) level by defining repair and distribution priorities, based on elements such as aircraft availability goals, planned flying hours, and worldwide asset position. Figure 2 illustrates the relationships of the components.

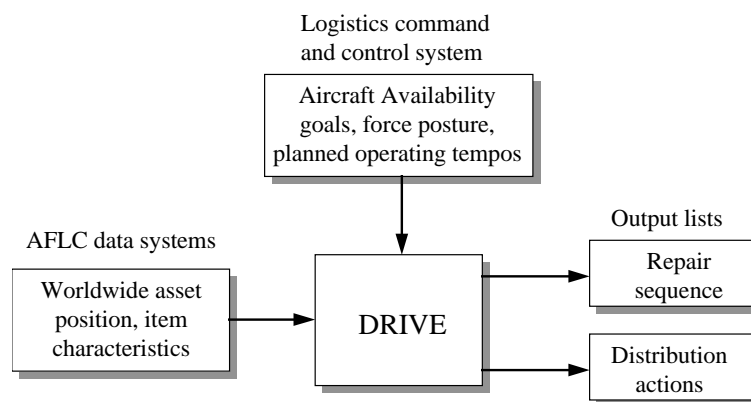


Figure 2. Basic DRIVE Architecture (Abell et al, 1992)

DRIVE prioritizes the repair of exchangeable items (Line Replaceable Units (LRU) and Shop Replaceable Units (SRU)) so the greatest increase in base level weapon system availability is achieved per repair sources expended.

**Note:** In this example, credit is given to the source at the end of the caption. Source credit can also be given at the end of the sentence which introduces the visual in the body of the report.

## **Sample 18. Numbered Citations in Text**

included classroom teachers per pupil, support staff per pupil and administrative staff per pupil.

Output measures included student scores on proficiency exams (44:1625).

5. When examining the efficiency of highway maintenance patrols, Cook et al. addressed the need to develop a measurement technique capable of assessing non-economic factors. These factors included average age of pavement, number of accidents, and traffic volume per day (17:114).

### ***Difficulty Estimating a Service Sector Production Function.***

The previously examined problems, caused by lack of quantifiable measures, relate to a larger theoretical problem when measuring public and service sector organizations. In economic terms, it is difficult to estimate a production function or appropriate production possibilities frontier in public organizations:

Methods for evaluating the relative productivity of units in the public sector have lagged behind similar applications where production functions were more directly obtainable. (7:57)

The difficulty in establishing an appropriate production function, coupled with the measurement problems previously identified, have led researchers to look for an alternative technique for measuring performance.

Traditional economic theory defines a production function as the relationship between inputs and outputs, where the quantity produced is equal of some function of . . . .

***Note: This sample also illustrates the fourth level of heading.***

### **Sample 19. Author-Number Citations in Text.**

organization with a viable substitute for economic or productivity measures. Throughout the literature, user satisfaction has been widely accepted as a surrogate measure for system success (Bailey and Pearson, 1983:530; Raymond, 1987:173; Ives and others, 1983:785; Tan and Lo, 1990:203; Hiltz and Johnson, 1990:739).

#### ***User Satisfaction Defined.***

User satisfaction is defined as the “extent to which users believe the information system available to them meets their information requirements” (Ives and others, 1983:785). As such, user satisfaction is a subjective measure of system success. In partial answer to the first research question, therefore, user satisfaction must be measured subjectively by asking the users what their satisfaction level is.

#### ***Basis for Accepting User Satisfaction.***

The research in this area began with the work of Cyert and March, who developed the original concept of user information satisfaction in their book entitled, *A Behavioral Theory of the Firm*, published in 1963. In their empirical research, Cyert and March found that when an information system successfully meets the needs of the users, the users’ satisfaction with that system is reinforced. Therefore, the users will be more likely to use the system in the future and the satisfaction with the system will continue to be reinforced (Cyert and March, 1963:124-127). According to Bailey and Pearson, another early researcher, Evans, found that

***Note: This sample also illustrates the fourth level of heading.***

## Sample 20. Appendix

### Appendix A: Student Feedback Form

Instructions: Please respond to the following questions as honestly and directly as possible. Your comments will provide valuable feedback which will be used to improve the content and presentation of this course. Remember, this is the first administration of the course material. Consequently, the course developers and the Air Staff are relying on your critique to help make this course more relevant and effective for future students.

How did you feel about the relevance of the content of this course? (Be as specific as possible.)

How did you feel about the presentation (slides, instruction, handouts) of this course? How could the presentation be improved?

Do you feel this course provided you with valuable information/knowledge? Why or Why not?

The purpose of this course was to familiarize you with basic IRM concepts and principles. To what extent do you feel this objective was met?

If you would like to provide additional comments, please do so here.

**Note:** This is an example of the kind of information that could be included in an appendix. In this case, this is an example of the information-gathering form that the author used in collecting data.

THANK YOU FOR YOUR FEEDBACK!

AFIT SCN 01-5, Expires 10 Nov 2012

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## Sample 23. Vita

### Vita

Captain Ronald B. Cole graduated from Our Lady of Good Counsel High School in Wheaton, Maryland. He entered undergraduate studies at the University of Maryland in College Park, Maryland where he graduated with a Bachelor of Science degree in Marketing in May 1996. He was commissioned through the Detachment 330 AFROTC at the University of Maryland where he was recognized as a Distinguished Graduate and nominated for a Regular Commission.

His first assignment was at Columbus AFB as a student in Undergraduate Pilot Training in February 1997. In May 1998, he was assigned to the 99<sup>th</sup> Contracting Squadron, Nellis AFB, Nevada where he served as an operational acquisition contracting officer. While stationed at Nellis, he deployed overseas in July 2000 to spend three months in Riyadh, Saudi Arabia as the Joint Task Force-Southwest Asia contingency contracting officer. In May 2002, he entered the Graduate School of Engineering and Management, Air Force Institute of Technology. Upon graduation, he will be assigned to the Pentagon.

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<b>4. TITLE AND SUBTITLE</b>  Creating a Network Model for the Integration of Dynamic and static Supervisory Control and Data Acquisition (SCADA) Test Environment				<b>5a. CONTRACT NUMBER</b>	
				<b>5b. GRANT NUMBER</b>	
				<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b>  Coerbell, Marlon C.D., Captain, USAF				<b>5d. PROJECT NUMBER</b> 11G222	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b>	
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<b>14. ABSTRACT</b> Since 9/11 protecting our critical infrastructure has become a national priority. Presidential Decision Directive 63 mandates and lays a foundation for ensuring all aspects of our nation's critical infrastructure remain secure. Key in this debate is the fact that much of our electrical power grid fails to meet the spirit of this requirement. My research leverages the power afforded by Electric Power and Communication Synchronizing Simulator (EPOCHS) developed with the assistance of Dr. Hopkinson, et al. The power environment is modeled in an electrical simulation environment called PowerWorld®. The network is modeled in OPNET® and populated with self-similar network and Supervisory Control and Data Acquisition (SCADA). The two are merged into one working tool that can realistically model and provide a dynamic network environment coupled with a robust communication methodology. This new suite of tools will enhance the way we model and test hybrid SCADA networks. By combining the best of both worlds we get an effective and robust methodology that correctly predicts the impact of SCADA traffic on a LAN and vice versa. This ability to properly assess data flows will allow professionals in the power industry to develop tools that effectively model future concepts for our critical infrastructure.					
<b>15. SUBJECT TERMS</b> EPOCHS, SCADA, OPNET, PowerWorld, Network, Power, Simulation, Federation					
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### To be completed by all students requiring limited distribution.

1. I request my thesis, dissertation, or graduation research paper be assigned the following Distribution Statement:

☐ Distribution Statement A. Approved for public release; distribution is unlimited.

☐ Distribution Statement B. Distribution authorized to U.S. Government agencies only . . .

<input type="checkbox"/> Foreign Govt. Info	<input type="checkbox"/> Premature Dissemination
<input type="checkbox"/> Proprietary Info	<input type="checkbox"/> Admin/Operational Use
<input type="checkbox"/> Critical Technology	<input type="checkbox"/> Software Documentation
<input type="checkbox"/> Test & Evaluation	<input type="checkbox"/> Specific Authority
<input type="checkbox"/> Contractor Perf Eval	<input type="checkbox"/> Export Control Law

☐ Distribution Statement C. Distribution authorized to U.S. Government agencies and their contractors . . .

<input type="checkbox"/> Foreign Govt. Info	<input type="checkbox"/> Admin/Operational Use
<input type="checkbox"/> Critical Technology	<input type="checkbox"/> Specific Authority
<input type="checkbox"/> Software Documentation	<input type="checkbox"/> Export Control Law

☐ Distribution Statement D. Distribution authorized to DOD and DOD contractors only . . .

<input type="checkbox"/> Foreign Govt. Info	<input type="checkbox"/> Critical Technology
<input type="checkbox"/> Admin/Operational Use	<input type="checkbox"/> Specific Authority
<input type="checkbox"/> Software Documentation	<input type="checkbox"/> Export Control Law

☐ Distribution Statement E. Distribution authorized to DOD components only . . .

<input type="checkbox"/> Direct Military Support	<input type="checkbox"/> Software Documentation
<input type="checkbox"/> Foreign Govt. Info	<input type="checkbox"/> Contractor Perf Eval
<input type="checkbox"/> Proprietary Info	<input type="checkbox"/> Critical Technology
<input type="checkbox"/> Premature Dissemination	<input type="checkbox"/> Admin/Operational Use
<input type="checkbox"/> Test & Evaluation	<input type="checkbox"/> Specific Authority
	<input type="checkbox"/> Export Control Law

☐ Distribution Statement F. Further dissemination only as directed . . .

IMPORTANT: Please make sure you include the complete distribution statement, including name of appropriate controlling DOD office/agency acronym and complete address, in your thesis and Box 12 of the SF 298. Please refer to the *AFIT Style Guide* for more information.

## Sample 25. Document Distribution Memorandum (Back)

2. Rationale for requesting distribution other than Statement A (Be specific e.g. data, citations, etc.)

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3. I have coordinated with \_\_\_\_\_ (organization) and it will serve as the releasing authority for this thesis. (other than Statement A)

4. If known, please describe the date and/or condition under which this limited distribution may be changed and what the new distribution statement should be.

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\_\_\_\_\_  
Author's Signature

\_\_\_\_\_  
Author's Typed Name

### **PART II - To be completed by the research advisor**

1st End, Research Advisor

Concur.

\_\_\_\_\_  
Research Advisor's Signature

\_\_\_\_\_  
Research Advisor's Typed Name

2nd End, Department Head

Approved.

\_\_\_\_\_  
Dept Head's Signature

\_\_\_\_\_  
Dept Head's Printed Name

## **Sample 26. Security and Policy Review Form**

### **Student/Faculty/Submitter Procedures for Public Release Approval of Publications and Presentations by Base Public Affairs (PA)**

#### **Student (author) Instructions to fill out WPAFB 1420:**

1. In block 3:
  - a. For **Author(s) Name** enter your name: Firstname Lastname
  - b. For **Organization** enter the department from which you are receiving your degree (ex: AFIT/ENG)
  - c. For **Phone** enter either your own phone number or your advisor's office number
2. In block 4, enter the title of your Thesis. You may abbreviate lengthy titles.
3. In block 5, enter AFIT GRADUATION. Under "Publication Date" enter graduation date.
4. In block 6, select THESIS/DISSERTATION from the drop-down menu.
5. Blocks 8 and 9 complete according to thesis content and classification.
6. Electronically sign block 10 and email 1420 to your Thesis Advisor

#### **Thesis Advisor (Technical Review) Instructions to fill out WPAFB 1420:**

1. Block 11: Review thesis, approve/electronically sign WPAFB 1420
2. Click on Email button at top of form
3. Email 1420 to Dept Head.

#### **Department Head (Security Manager Review) Instructions to fill out WPAFB 1420:**

1. Block 12: Review thesis, approve/electronically signs WPAFB 1420
2. Click on Email button at top of form
3. Email 1420 to Thesis Processor

#### **Thesis Processor (Submitter) instructions to fill out WPAFB 1420:**

1. In block 1, enter date that is 10 business days after the submission date.
2. Under **Submitter Reference No.**, enter internal case number.
3. In block 2, enter your name, phone number, organization (AFIT/ENWL) and e-mail.
4. Submit to Public Affairs with attached thesis or dissertation.



## Sample 26. Security and Policy Review Form

<b>88 ABW PUBLIC AFFAIRS SECURITY AND POLICY REVIEW WORKSHEET</b>		1. DATE NEEDED <i>(10 Day Minimum)</i>	SUBMITTER REFERENCE NO.
NOTE: Application for Distribution A: Public Release Unlimited. Public release clearance is NOT required for material presented in a closed meeting and which will not be made available to the general public, on the Internet, in print or electronic media.			
2. USAF SUBMITTER NAME PHONE ORG/OFC SYM E-MAIL		3. PRIMARY AUTHOR NAME PHONE ORG/OFC SYM E-MAIL	
4. DOCUMENT TITLE			
5. CONFERENCE/EVENT/PUBLICATION/WEBSITE/PUBLIC WEB URL			EVENT/PUBLICATION DATE
6. DOCUMENT TYPE SELECT <input type="button" value="v"/> <input type="checkbox"/> OTHER _____		7. BUDGET CATEGORIES SELECT <input type="button" value="v"/> <input type="checkbox"/> OTHER _____	
8. NATIONAL SECURITY STATUTES/TECHNOLOGY ISSUES			
a. Are any aspects of this technology included in: U.S. Munitions List; ITAR 22, CFR Part 121; CCL; Technology Protection Plan, Security Classification Guide? (If YES, please explain rationale for release in block 9) <input type="checkbox"/> YES <input type="checkbox"/> NO		d. If this material results from an international agreement, is the USAF authorized to release program information? (If NO, please identify release authority organization in Block 9) <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
b. Does this information meet the criteria for Distribution Statement "A" - unclassified, unlimited distribution? <input type="checkbox"/> YES <input type="checkbox"/> NO		e. If this is a joint program, does your organization maintain primary management responsibility and authority to release all information? (If NO, please provide name of lead organization/POC (i.e., DARPA, NASA, Army, etc.) in Block 9. <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	
c. Are any references classified or subject to distribution limitations? <input type="checkbox"/> YES <input type="checkbox"/> NO			
9. EXPLANATION <i>(Additional comments, previous related cases, additional coordination accomplished/required; instructions on reverse)</i> 			
10. USAF ORIGINATOR/PROGRAM MANAGER <i>(Required)</i> I certify the attached material is unclassified, technically accurate, contains no critical military technology, is not subject to export controls and is suitable for global public release.  NAME ORGANIZATION OFFICE SYMBOL SIGNATURE <a href="#">Click to sign</a> DATE		11. TECHNICAL REVIEW AND CERTIFICATION <i>(Required)</i> I certify the information contained in the attached document is technically accurate; does not disclose classified, sensitive, or military critical technology, does not violate proprietary rights, copyright restrictions; and is not subject to export control regulations. I further certify that this information is suitable for public release.  NAME ORGANIZATION OFFICE SYMBOL SIGNATURE <a href="#">Click to sign</a> DATE	
12. SECURITY MANAGER REVIEW <i>(Required)</i> Signature certifies that the information has been reviewed and the information contains no Operational Security issues or foreign disclosure issues.  NAME ORGANIZATION OFFICE SYMBOL SIGNATURE <a href="#">Click to sign</a> DATE		13. ADDITIONAL REVIEW I certify that this information is suitable for public release.  NAME ORGANIZATION OFFICE SYMBOL SIGNATURE <a href="#">Click to sign</a> DATE	
14. PAUSE ONLY	NOTES:		
<input type="checkbox"/> APPROVED <input type="checkbox"/> AS AMENDED <input type="checkbox"/> DISAPPROVED	PUBLIC AFFAIRS OFFICER  <a href="#">Click to sign</a>	DATE	CASE NUMBER

WRIGHT-PATTERSON AFB FORM 1420, 20140501

PREVIOUS EDITION IS OBSOLETE

## Sample 27. Permission Form to Use Copyrighted Material

### SAMPLE FORMAT FOR REQUEST FOR PERMISSION TO USE COPYRIGHTED MATERIAL

(LETTERHEAD)

Name of Company

Address

Salutation

Date\_\_\_\_\_

This office is preparing a work to be published for the Air Force Institute of Technology entitled\_\_\_\_\_.

Permission is requested to include in it the following material: \_\_\_\_\_(Insert the page and line numbers of the illustrations and/or textual matter to be used)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_published by your  
company and written by\_\_\_\_\_.

Indicate on one copy of this letter if this material, with an appropriate copyright credit line, may be used in the above work. A self-addressed envelope is enclosed for your convenience.

\_\_\_\_\_  
(Signature of Requesting  
Government Personnel)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Address)

Permission:

The above requested PERMISSION is hereby granted, royalty-free.

The material covered by this permission may (may not) be placed on sale in the Government Printing Office.

\_\_\_\_\_  
(Name of copyright proprietor  
or authorized agent)

Date: \_\_\_\_\_

By\_\_\_\_\_

\_\_\_\_\_  
(Title)

## **Appendix D. Distribution Statement Examples**

The Distribution Statements below are referenced from the Department of Defense Directive [5230.24](#), “Distribution Statements on Technical Documents,” 18 March 1987.

To verify the most up-to-date directives for marking and disseminating DOD technical documents, please refer to the official source of DOD issuances, <http://www.dtic.mil/whs/directives/corres/dir.html> .

### **Distribution Statement A**

Distribution Statement A is:

**DISTRIBUTION STATEMENT A.**

**APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.**

- Distribution Statement A may be used only on unclassified technical documents that have been cleared for public release by the 88 ABW Office of Public Affairs in accordance with AFI 35-101 and DOD Directive 5230.09. See also <http://www.wpafb.af.mil/library/factsheets/factsheet.asp?id=10275>.
- Technical documents resulting from contracted fundamental research efforts will normally be assigned Distribution Statement A, except for those rare and exceptional circumstances where there is a high likelihood of disclosing performance characteristics of military systems, or of manufacturing technologies that are unique and critical to defense, and agreement on this situation has been recorded in the contract, grant or other agreement with the sponsor.

Distribution Statement A documents will be circulated to DTIC and the Air University Research Information System (AURIMS) to enable public access in accordance with DOD policy. This means that technical documents with this statement will be made available to the public and foreign nationals, companies, and governments, including adversary governments, and may be exported.

- This statement may not be used on technical documents that formerly were classified unless such documents are cleared for public release by the controlling DOD office.

- This statement shall not be used on classified technical documents or documents containing export-controlled technical data as provided in DOD Directive 5230.25.

## **Distribution Statement B**

The template for Distribution Statement B is:

### **DISTRIBUTION STATEMENT B:**

**DISTRIBUTION AUTHORIZED TO U. S. GOVERNMENT AGENCIES ONLY; [FILL IN REASON - Must use one of the reasons from the bullets below] [DATE OF DETERMINATION]. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO [INSERT NAME OF APPROPRIATE CONTROLLING DOD OFFICE – Must include Agency Acronym and complete address.]**

The distribution statement must be accompanied by one of the following Destruction Notices:

**DESTRUCTION NOTICE – For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.**

**DESTRUCTION NOTICE – For classified documents, follow the procedures in DOD 5220.22-M, National Industrial Security Program Operating Manual, Section 5-705 or DOD 5200.1-R, Information Security Program Regulation, Chapter VI, Section 7.**

Distribution Statement B may be used on unclassified or classified technical documents if necessary to ensure distribution limitation in addition to need-to-know requirements imposed by DOD Directive 5200.1-R, or in the event the document is declassified.

Acceptable reasons for imposing Distribution Statement B are limited to:

**Foreign Government Information:** To protect and limit distribution in accordance with the desires of the foreign government that furnished the technical information. Information of this type normally is classified at the CONFIDENTIAL level or higher in accordance with DOD 5200.1-R.

**Proprietary Information:** To protect information not owned by the U.S. Government and protected by a contractor's "limited rights" statement, or received with the understanding that it not be routinely transmitted outside the U.S. Government.

**Critical Technology:** To protect information and technical data that advance current technology or describe new technology in an area of significant or potentially significant military application or that relate to a specific military deficiency of a potential adversary. Information of this type may be classified or unclassified; when unclassified, it is export-controlled and subject to the provisions of DOD Directive 5230.25.

Test and Evaluation: To protect results of test and evaluation of commercial products or military hardware when such disclosure may cause unfair advantage or disadvantage to the manufacturer of the product.

Contractor Performance Evaluation: To protect information in management reviews, records of contract performance evaluation, or other advisory documents evaluating programs of contractors.

Premature Dissemination: To protect patentable information on systems or processes in the developmental or concept stage from premature dissemination.

Administrative or Operational Use: To protect technical or operational data or information from automatic dissemination under the International Exchange Program or by other means. This protection covers publications required solely for official use or strictly for administrative or operational purposes. This statement may be applied to manuals, pamphlets, technical orders, technical reports, and other publications containing valuable technical or operational data.

Software Documentation: Releasable only in accordance with DOD Instruction 7930.2.

Specific Authority: To protect information not specifically included in the above reasons and discussions, but which requires protection in accordance with valid documented authority, such as Executive orders, classification guidelines, DOD or DOD Component regulatory documents. When filling in the reason, cite "Specific Authority (*insert identification of valid documented authority*)."

Export Control Act: Documents marked with any technical documents that are determined to contain export-controlled technical data, shall be marked also with the Export Control Law Statement:

WARNING: SUBJECT TO EXPORT CONTROL LAWS

WARNING – THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS RESTRICTED BY THE ARMS EXPORT CONTROL ACT (Title 22, U.S.C., Sec 2751, et. seq.) OR THE EXPORT ADMINISTRATION ACT OF 1979, AS AMENDED, Title 50, U.S.C., App. 2401 et. seq. VIOLATIONS OF THESE EXPORT LAWS ARE SUBJECT TO SEVERE CRIMINAL PENALTIES. DISSEMINATE IN ACCORDANCE WITH PROVISIONS OF DOD DIRECTIVE 5230.25.

When it is technically infeasible to use the entire statement, an abbreviated marking may be used, and a copy of the full statement added to the "Notice To

Accompany Release of Export-Controlled Data" required by DOD Directive 5230.25.

## Distribution Statement C

The template for Distribution Statement C is:

### DISTRIBUTION STATEMENT C:

DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND THEIR CONTRACTORS; *[FILL IN REASON - Must use one of the reasons from the bullets below]* *[DATE OF DETERMINATION]*. OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO *[INSERT NAME OF APPROPRIATE CONTROLLING DOD OFFICE - Must include Agency Acronym and complete address.]*

This distribution statement must be accompanied by one of the following Destruction Notices:

DESTRUCTION NOTICE – For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.

DESTRUCTION NOTICE – For classified documents, follow the procedures in DOD 5220.22-M, National Industrial Security Program Operating Manual, Section 5-705 or DOD 5200.1-R, Information Security Program Regulation, Chapter VI, Section 7.

Distribution Statement C may be used on unclassified or classified technical documents if necessary to ensure distribution limitation in addition to need-to-know requirements imposed by DOD Directive 5200.1-R, or in the event the document is declassified.

Acceptable reasons for applying Distribution Statement C (see Distribution Statement B section for definitions) are limited to:

Foreign Government Information  
Critical Technology  
Software Documentation  
Administrative or Operational Use  
Specific Authority  
Export Control Act



## **Distribution Statement D**

The template for Distribution Statement D is:

### **DISTRIBUTION STATEMENT D:**

**DISTRIBUTION AUTHORIZED TO DEPARTMENT OF DEFENSE AND U.S. DEPARTMENT OF DEFENSE CONTRACTORS ONLY; [FILL IN REASON - *Must use one of the reasons from the bullets below*] [DATE OF DETERMINATION]. OTHER REQUESTS SHALL BE REFERRED TO [INSERT NAME OF APPROPRIATE CONTROLLING DOD OFFICE - *Must include Agency Acronym and complete address.*]**

This distribution statement must be accompanied by one of the following Destruction Notices:

**DESTRUCTION NOTICE** – For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.

**DESTRUCTION NOTICE** – For classified documents, follow the procedures in DOD 5220.22-M, National Industrial Security Program Operating Manual, Section 5-705 or DOD 5200.1-R, Information Security Program Regulation, Chapter VI, Section 7.

Distribution Statement D may be used on unclassified or classified technical documents if necessary to ensure distribution limitation in addition to need-to-know requirements imposed by DOD Directive 5200.1-R, or in the event the document is declassified.

Acceptable reasons for applying Distribution Statement D (see Distribution Statement B section for definitions) are limited to:

Foreign Government Information  
Critical Technology  
Software Documentation  
Administrative or Operational Use  
Specific Authority  
Export Control Act

## **Distribution Statement E**

The template for Distribution Statement E is:

### **DISTRIBUTION STATEMENT E:**

**DISTRIBUTION AUTHORIZED TO DOD COMPONENTS ONLY; [FILL IN REASON - Must use one of the reasons from the bullets below]] [DATE OF DETERMINATION]. OTHER REQUESTS SHALL BE REFERRED TO [INSERT NAME OF APPROPRIATE CONTROLLING DOD OFFICE - Must include Agency Acronym and complete address.]**

This distribution statement must be accompanied by one of the following Destruction Notices:

**DESTRUCTION NOTICE – For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.**

**DESTRUCTION NOTICE – For classified documents, follow the procedures in DOD 5220.22-M, National Industrial Security Program Operating Manual, Section 5-705 or DOD 5200.1-R, Information Security Program Regulation, Chapter VI, Section 7.**

Distribution Statement E may be used on unclassified or classified technical documents if necessary to ensure distribution limitation in addition to need-to-know requirements imposed by DOD Directive 5200.1-R, or in the event the document is declassified.

Acceptable reasons for applying Distribution Statement E (see Distribution Statement B section for additional definitions) are limited to

**Direct Military Support:** The document contains export-controlled technical data of such military significance that release for purposes other than direct support of DOD-approved activities may jeopardize an important technological or operational military advantage of the United States. Designation of such data is made by competent authority in accordance with DOD Directive 5230.25.

Foreign Government Information  
Proprietary Information  
Premature Dissemination  
Test and Evaluation  
Software Documentation  
Contractor Performance Evaluation  
Critical Technology

Administrative-Operational Use  
Specific Authority  
Export Control Act

## **Distribution Statement F**

The template for Distribution Statement F is:

### **DISTRIBUTION STATEMENT F:**

**FURTHER DISSEMINATION ONLY AS DIRECTED BY [INSERT NAME OF APPROPRIATE CONTROLLING DOD OFFICE - Must include Agency Acronym and complete address] [DATE OF DETERMINATION] OR HIGHER DOD AUTHORITY.**

This distribution statement must be accompanied by one of the following Destruction Notices:

**DESTRUCTION NOTICE** – For classified documents, follow the procedures in DOD 5220.22-M, National Industrial Security Program Operating Manual, Section 5-705 or DOD 5200.1-R, Information Security Program Regulation, Chapter VI, Section 7.

**DESTRUCTION NOTICE** – For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.

Distribution Statement F is normally used only on classified technical documents but may be used on unclassified technical documents when specific authority exists (e.g., designation as direct military support as in statement E). Distribution Statement F is also used when the DOD originator determines that the information is subject to special dissemination limitation specified by paragraph 4-505, DOD Directive 5200.1-R (reference (h)).