Writing a Thesis, Prospectus or Dissertation

Reference for writing style for academic papers

- K.L. Turabian, A Manual for Writers of Term Papers, Theses, and Dissertations, 6th ed., The University of Chicago Press, Chicago, 1996.

General Requirements

Format and Style

Consult the major professor about the format and style. The style must be consistent with FAMU or FSU clearance guidelines, as described in the brochure Guidelines and Requirements for Thesis, Treatise and Dissertation Writers, a copy of which may be obtained from the FSU Graduate Dean's office in Room 408 Westcott.

Abstract

Every thesis or dissertation must include an abstract, i.e., a concise but independently intelligible summary of the contents of the work, normally placed prior to the first page of text. Provided it is concise, there is no formal limit to its length.

In addition to the above abstract, which forms an integral part of the thesis or dissertation, a second independent abstract limited to 250 words must be submitted to the Graduate Office in Room 408 Westcott for use by FSU or to the Graduate Office for use by FAMU. If the thesis or dissertation abstract is 250 words or less in length, then with appropriate reformatting it may also be used for the FAMU-FSU abstract.

Thesis or dissertation credits

Registration is required for ECH 5971r during any semester in which a substantial amount of work toward a master's thesis is performed, or for ECH 6980r during any semester in which a substantial amount of work toward a doctoral dissertation is made.

A minimum credit of 9 semester hours in ECH 5971r is required for a master's thesis, and a minimum credit of 24 hours in ECH 6980r is required for a doctoral dissertation.

Master's Thesis

To obtain a master's degree by thesis, an independent research project must be performed and a thesis must be written. The thesis may contain the following elements:

1. A clear statement of the problem and its significance.
2. A review of related published work.
3. A thorough discussion of methods used, including experimental and theoretical.
4. A thorough presentation of the solution.
5. A discussion of the results and a critique of their impact on the field of study.
6. A summary of what was original and significant in the thesis, together with suggestions for future work.

Nevertheless, it is not essential (though of course desirable) that the results be original; a work survey thesis, whose originality lies in the synthesis of known (but widely scattered) results -- as opposed to in the results themselves -- is acceptable for a master's degree (but not a doctorate).

Broadly speaking, such a thesis would place greater emphasis on (i) and (ii) and replace (iv) by a discussion of the difficulties encountered in attempting to obtain a solution.

PhD Prospectus

Before work on a doctoral dissertation is developed, a prospectus, i.e., a written outline of the proposed research, should be prepared. This prospectus should describe the problems addressed and their significance, provide sufficient background material to convince the committee that the research is worth doing (and has not already been done), and demonstrate convincingly that the student has the intellectual skills and the in-depth knowledge of the field of application to undertake the research. Students should take this examine one year after qualifying exam but no later than the 5th semester after entering the PhD program. This prospectus must be defended in front of the PhD advisory committee.

It is advisable to review prospectus of a previous graduate student (request them from individual faculty members) to form an impression of what constitutes an acceptable outline of research.

PhD Dissertation

To obtain the doctoral degree, a dissertation on a chemical or biomedical engineering topic in an area of specialization must be completed. To be acceptable, it must be an original research achievement; it must constitute a significant contribution to knowledge; and it must represent substantial scholarly effort on the part of the student. The supervisory committee will make the final decision concerning the dissertation.

A dissertation may contain the following information (though not necessarily in the following order):

Introduction

The dissertation should begin with a clear, concise statement of the problem, its significance, the scope and originality of the solution, and a brief chapter-by-chapter guide to the organization of the document.

Review of the literature

A thorough survey of pertinent published work in the subject not only places the problem in context, but it also provides criteria for judging the originality of the results.

Background

Not everyone who reads the dissertation will be as familiar as the author with the methods, notation, and terminology employed, and so an early chapter should review them. Not only will this review make the dissertation more accessible to other readers, but also writing the review will help to clarify the author's understanding of the material.

Physical, chemical, biomedical and engineering background

Again, not everyone who reads the dissertation will be as familiar as the author with the field of application, and so an early chapter should survey pertinent material.

Presentation of original work

The original contribution is the heart of the dissertation. It should be described thoroughly, clearly identifying original results by stressing differences with previous related work.

Critique

Evaluation and assessment of the field of study at large. Be honest and objective. The author should claim to have accomplished neither more nor less than is actually the case.

Summary and future work

The dissertation should conclude with a concise summary of the most important results, again distinguishing original results from those that were previously known, and offer suggestions for future research.