

DEPARTMENT OF MECHANICAL ENGINEERING
NORTHERN ILLINOIS UNIVERSITY
POLICIES & PROCEDURES FOR MASTERS' DEGREE THESIS RESEARCH
5/8/1992

A. Objectives of Thesis Research

The objectives of thesis research are as follows:

To provide an opportunity for Masters' Degree students in learning the techniques, and methodology of independent research.

- To make a contribution with a degree of originality and significance to the knowledge in an area of mechanical engineering.

B. Scope and Nature of Thesis Research

The research should reasonably be expected to be completed in two semesters. Examples below indicate the nature of acceptable thesis topics:

- Experimental, theoretical, and/or numerical parametric studies of systems with a view to predict the performance of a system or component.
- Design of novel mechanical engineering systems, components, and processes.
- Optimization of mechanical engineering systems, components, or processes.
- Experimental work to collect and correlate data needed to explain fundamental phenomena in mechanical engineering.
- Analytical and/or numerical work to explain fundamental phenomena in mechanical engineering.
- To develop computerized design tools with important applications in mechanical engineering.

All experimental and numerical works must contain a thorough error analysis.

C. Components of a Thesis

The thesis must be prepared in a format described in the latest edition of "The Graduate School Manual for Theses and Dissertations". Apart from issues related to format, the following components must be addressed in the thesis:

- A thorough introduction reviewing past work by other researchers in the field and the need for the proposed research.
- A thorough literature survey reflected by the Bibliography section.
- The main text of the thesis mainly focusing on the particular methods and contributions of the thesis research. Duplicating long sections of other researcher's work must be avoided and replaced by suitable references to related work.

- A thorough discussion of results and conclusions emphasizing the novel and original features of the findings. Proposals for extension of the work are valuable and should be contained in this section.

D. Procedures for Selecting a Thesis Director, Thesis Committee, and a Thesis Topic:

It is the sole responsibility of the student to contact various faculty members and with their guidance, identify a suitable topic for research conforming to principles stated in section B above. The student is also responsible to seek agreement from an eligible faculty member to be the Thesis Director. Selection of Director, Thesis Committee members and the topic approval must be completed before the end of the student's second semester of studies in the department.

- Eligibility of Thesis Director

Eligibility of the Thesis Director is determined according to the Graduate School Criteria for membership on the Graduate Faculty. Certain grades of Graduate Faculty membership require the approval of the Department Chair, the Dean of the College and the Graduate School before the faculty member can act as a Thesis Director.

Selection of Thesis Committee Members

Two other faculty members with research interests in the chosen topic for research must be selected by the student and the Thesis Director to comprise the Thesis Committee. No more than one faculty member on the Thesis Committee may be from another department of the university.

- Approval of the Thesis Topic

At the earliest possible time following the selection of the topic, the Thesis Director, and the Thesis Committee, the student and the Thesis Director will invite the Thesis Committee and preferably all of the graduate faculty of the department to a presentation of the thesis topic and the proposed methodology for the conduct of the research work. Formal approval of the thesis topic signed by all committee members must be placed in the student's file.

Thesis Defense

The Masters' Thesis must be officially defended by the student in a formal defense meeting. All members of the thesis committee, faculty members, and graduate students must be invited to the defense. The principle upheld by the Department of Mechanical Engineering is that the thesis work must be subjected to the closest scrutiny by all interested faculty members to ensure the quality of the graduate program. If the consensus during the defense is that further substantive work is needed to complete the work, the student will be asked to complete the work and schedule another defense at a later time.

Publication of Articles Based on Thesis Work

All graduate students are strongly encouraged to publish archival journal or other refereed articles based on their thesis work with the faculty member (s) involved in the work.

E. Academic Integrity

- Students must be fully aware of the academic policies of the university regarding ethical behavior and follow them closely. The policies are found in the Graduate Catalog and in pamphlets available from the Graduate School.
- Students must refrain from unauthorized copying of copy righted material, plagiarism, use of unlicensed software, and using other people's work of any nature without giving proper credit.
- Students must adhere to the guiding principle of scientific research which is to consider data or other finding of the research without bias. Falsification of data, representing other people's work as one's own, and deliberate misrepresentation of facts are considered cheating and will be dealt with according to the Judicial of the University.