HANDBOOK FOR ECT 697

MAJOR PROJECT

Approved by

The Graduate Faculty

Department of Electronics and Computer Technology

College of Technology

Indiana State University

Terre Haute, Indiana

First Edition

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INTRODUCTION

A master's major project is a technical work of scholarship, which is presented by a degree candidate to a major project committee for approval on behalf of the College of Technology. It is then presented to the Department of Electronics and Computer Technology in partial fulfillment of the requirements for a Master's Degree. It is an important scholarly achievement that should be presented with pride.

This edition of the *Handbook* presents procedural information to assist the graduate student in fulfilling this important requirement. It is always important to check with your committee chair for additional requirements. Each student is responsible for all aspects of organization and delivery of project materials. Remember, the major project is completely instituted and delivered by the graduate student. The committee is there to help guide you in the process and to provide approval for each stage of the project.

PROJECT TOPICS

The major project needs to adhere to the following criteria:

- It must be a topic appropriate to the master's level of study.

- It should be based in hardware.

- Appropriate proof of completion should include a prototype, simulation, or other validation materials.

- Software projects should have a hardware component.

The final approval of the topic will be the responsibility of the project committee and the Coordinator of the MSECT Program. For students wishing to complete a project at their place of employment, the following criteria must be followed:

- The project topic should be separate from everyday duties.

- It should be a project that expands the knowledge base of the company.

- One member of the project committee should be a supervisor or responsible colleague.

- The project topic should be available for release. Proprietary information would not be appropriate for publication in a project report.

- All proprietary release documents should be signed and put on file in the Dept. of Electronics and Computer Technology.

PROCEDURE

The procedure for completing the major project is provided in this section. The first section provides a general outline of possible steps that you should follow in completing all steps from vision to final submission of project materials.

1. Project Vision

2. Formulate the Problem

3. Select a Chair for the Project Committee

4. Discuss the Problem with your Chair

5. Select Two Additional Members

6. Write the Project Proposal

7   Distribute the Proposal to your Committee

8.   Select a Proposal Defense Procedure

- Videotape and PowerPoint
- NetMeeting and PowerPoint
- Conference Call
- Internet Video Conference
- On-Campus
- Other

9.   Select a Proposal Defense Date

10.   Present and Defend Proposal

11.   Signed Petition for approval of Master's Project sheet on File

12.   Do the Project

13.   Keep Committee Updated on Progress

14.   Submit a Draft of the Final Project Report To Your Committee (It is very important to keep your committee chair informed of your progress)

15.   Select a Final Defense Procedure

- Videotape and PowerPoint
- NetMeeting and PowerPoint
- Conference Call
- Internet Video Conference
- On-Campus
- Other

16.   Select a Final Defense Date

17.   Defend Your Project

18.   Have the committee and ECT Coordinator approve by signing the appropriate signature page on the Petition for approval of Master's Project.

19.   Submit the Bound Final Report. Original signed document is submitted to the Department of Electronics and Computer Technology.

20.   Successful…Congratulations

21.   MSECT Complete --- upon successful completion of all other curriculum requirements.

Specific details concerning the proper process and procedures for completing the major project are included below. The proposal and final report outline are also included in this section.

ECT 697: MAJOR PROJECT

During the "application" phase of our ECT Graduate program, a student's career preparation and development needs may be most effectively fulfilled by completing a developmental investigation (preparation of a training program, procedure, prototype, or product). The developmental investigation (project) would be intended to satisfy an identified problem or need. Accordingly, the student should prepare a proposal that provides the information specified in Figure 1.

PROCEDURE

1.   The student, in consultation with his or her graduate advisor, selects a member of the ECT Department's Graduate Faculty to serve as major advisor and provides a preliminary draft of the proposal for review.

2.   After the review, the faculty member should be asked if they are interested and willing to serve as the "major advisor."

3.   Once an advisor and candidate agree that they can work together, comprehensive review, revision, and supplementation of the proposal are necessary.

4.	At least two additional committee members should be selected by the advisor and candidate on the basis of their ability to contribute to the project.

5.	Potential members are contacted by the candidate and the proposal review process is repeated.

6.	Once a committee is formed, the candidate should identify a convenient time for a preliminary oral examination of the proposal. An announcement of the proposal defense must be posted on the graduate bulletin board located in the ECT office complex.

7.	This preliminary oral regarding the proposal may result in approval of the activity and initial sections of the final report. A "Project Approval Form" (Petition for approval of Master's Project) should be signed by the committee members and submitted to the department's Director of Graduate Studies.

8.	The student then proceeds with the approved activity; during this time there should be continuing dialogue between the candidate and committee.

9.	Upon completion of the project and after a clean draft copy of the final report is prepared; a final oral examination is scheduled (copies of the draft must be given to committee members at least one week before the oral defense). **Final report writing style should follow the APA (American Psychological Association) Manual of Style.**

An announcement of the final defense must be posted on the graduate bulletin board located in the ECT complex.

10.   After the final examination, the candidate should correct the draft; this would include all committee recommendations. In many instances, recommendations might not constitute major changes and the committee will sign both the title page and the Final Project Evaluation form (Petition for approval of Master's Project). The assumption is that the committee suggestions will be worked out between the advisor and candidate and that the committee need not meet again.

11.   The ECT Department requires a hardbound original of the project's final report. Each member of the candidate's committee should receive a bound copy of the final report. **Bound copies should include the title and student's name in gold lettering on both the front cover and spine.**

FIGURE 1— **PROJECT PROPOSAL GUIDELINES**

SECTION 1. Introduction

a.   general statement of the problem or situation (background)

b.   statement of the specific "need"

c.   proposed objectives

d.   definitions of terms or concepts

SECTION 2. Review of the Literature

a.   previous and related information

b.   pertinent opinion

c.   summary of present status

SECTION 3. Procedure

a.   project description

b.   investigation (development) procedure

c.   anticipated timeline or schedule of activities

d.   method to be used for evaluating whether or not the objectives have been attained

FIGURE 2 – FINAL REPORT GUIDELINES

CHAPTER 1. Introduction

This first section describes the context or background of a project the candidate is writing about; pertinent literature investigation or review information would also be included (WHY this particular activity was selected).

CHAPTER 2. **Description**

This section comprehensively explains WHAT the project was and HOW it was conducted (diagrams, drawings, charts, outlines, or tables should be included when appropriate).

CHAPTER 3. Evaluation and Recommendations

Here, an explanation about the results of the project should be carefully delineated. Did the procedure (training program, prototype, investigation ...etc.) fulfill the initial objectives? Why or why not? Recommendations for further investigation or development should also be made in this-section.

PROPOSAL DEFENSE

The process of defending your project proposal is vital to the overall success of completing the major project. Approval by the committee of your proposal indicates that your idea, concept, and procedure are acceptable as a valid major project. The specific process for on-campus and distance students includes the following:

- Work with the committee chair to identify points to be covered in the project proposal

- Write the proposal including a valid statement of the problem.

- Obtain approval from the committee chair to defend the proposal.

- Set a defense date at least two-weeks prior to the actual defense date.

- Arrange for a meeting room for the proposal defense. Distance students will select an appropriate technology for the defense.

- Prepare the formal defense. This may include PowerPoint presentations or other presentation methods.

- Obtain and complete the "Petition for Approval of Master's Project" form.

- Defend the proposal.

- File the original approved petition form with the ECT .

- You are now approved to work on your project.

FINAL DEFENSE

When the work has been completed you are now ready to defend the final results of your project. A list of procedures to follow in this final stage of the project is provided below:

- Notify your committee chair that you are ready to defend your project results.

- Complete a first draft of the final report.

- Submit this draft to each of your committee members for review.

- With the approval of your committee chair, set a date for the final defense of the major project. It is appropriate to schedule the final defense at least two weeks prior to the actual defense date.

- Arrange for a meeting room for the final defense. Distance students will select an appropriate technology for the defense.

- Prepare the formal defense. This may include PowerPoint presentations or other presentation methods.

- Obtain the "Petition for Approval of Master's Project" form from the ECT .

- Defend the final report.

- Obtain the appropriate signatures, including the Coordinator of ECT Graduate Studies.

- Complete all revisions to the final report.

- Obtain final approval from your committee chair.

- Bind the final report following accepted guidelines.

- Submit the final report to the Coordinator of ECT Graduate Studies for grade assignment.

- Submit one bound copy to each committee member.

FINAL REPORT

The final report is a record of all the hard work that has gone into this major project. It should be completed with all of the pride and passion of an individual who will earn this advanced degree. Use the APA Manual of Style for writing style. Ensure that all language and typographic errors have been resolved before the document is sent to the bindery. There are a number of excellent examples on file in the ECT Department offices of excellent final reports. It is appropriate that you review these examples when beginning the process of writing your report. Feel free to speak with your committee chair for advice and assistance in completing your final report. An original signed copy of your final report will be put in a place of honor next to those from other students that have already completed the MSECT. You are now associated with all of the successful MSECT graduates that have gone on to great achievement. Congratulations on this high honor.

ELECTRONICS AND COMPUTER TECHNOLOGY

(ECT 697 — MAJOR PROJECT)

Petition for approval of Master's Project

Proposal Approval

Activity Title _____

_____

_____

Candidate _____

Signed _____ **Date** _____
(Candidate)

Committee Signatures:

_____   _____

_____   _____

_____   _____
(Committee Chair)   (ECT Director of Graduate Studies)

Final Approval

Results of the Final Project Evaluation
& Final Copy of Project Report

Date _____

_____ **Passed** _____ **Failed**

Committee Signatures:

_____   _____

_____   _____
(Committee Chair)   (ECT Director of Graduate Studies)