

## EE 697 - M.S.E.E. Project

The goals of the M.S.E.E. program are as follows:

- Graduates will demonstrate a) a depth of education beyond that of the baccalaureate and b) the specialized skills that will allow the graduate to practice in and contribute to the sub-disciplines of electrical engineering emphasized in the program.
- Graduates will demonstrate an understanding of the current practices in the field of specialization through a project or thesis program component that has a level of complexity and specialization that extends the knowledge, intellectual maturity, and independence of the student.
- Graduates will demonstrate the ability to communicate their ideas to their peers and to the public.

For the nonthesis option, the program culminates in a project that is a key curriculum component addressing these goals. The project, report, and presentation will be evaluated based on how well it satisfies these goals and based on how well these student work products satisfy the guidelines presented below. The project report documents the highlight of the student's lifetime educational experience and should be prepared with utmost care and diligence.

**Important Dates** - The following schedule must be followed.

| Due Date  | Item  |
|---|---|
| <b>Before</b> the end of the term prior to the term in which you wish to register for the project | Work with your advisor to define a topic for the project and develop the <b>Problem Statement</b> .   |
| <b>Before</b> the deadline in the term you wish to graduate                                       | Apply for the degree  |
| <b>Problem Statement Due Date:</b><br>Before 5 pm on<br>Tuesday, Sept. 1, 2009                    | Submit a copy of the <b>Problem Statement</b> to Sandra D. Muhammad. The <b>Problem Statement</b> must be prepared according to the guidelines below and with the title page ( <a href="http://www-ece.eng.uab.edu/">http://www-ece.eng.uab.edu/</a> ) signed to indicate approval by the advisor. The final course grade may be reduced by the equivalent of one letter grade for each day that a submission is late. <b>No submissions will be accepted more than two days after the due date.</b>  |
| <b>Draft Report Due Date:</b><br>Tuesday, Nov. 3, 2009  | Submit a draft of the <b>Project Report</b> to your advisor for review. The draft must be prepared according to the guidelines below. Make corrections as required by the advisor and obtain the advisor's signature before the final report due date.  |
| <b>Final Report Due Date:</b><br>Before 5 pm on<br>Tuesday, Nov. 24, 2009                         | Submit a copy of the final <b>Project Report</b> to Sandra D. Muhammad. The <b>Project Report</b> must be prepared according to the guidelines below and with the title page ( <a href="http://www-ece.eng.uab.edu/">http://www-ece.eng.uab.edu/</a> ) signed by the student and the advisor to indicate that the project activity is complete, the report is in final form, and the work is ready to present*. Ms. Muhammad will distribute copies to the committee who will review the report and see the presentation. The course grade may be reduced by the equivalent of one letter grade for each day that a submission is late. <b>No submissions will be accepted more than two days after the due date.</b> |
| Monday, Nov. 30, 2009<br>(Morning)  | Students whose reports have been approved, submitted, and accepted will load the presentation on the presentation computer and verify that the projection system works for their presentation.  |
| <b>Presentation (TENTATIVE):</b><br>Mon., Nov. 30, 2009 1-3:30 pm                                 | Project presentations. EE 697 students must remain in the audience for all project presentations.   |

\* Submission of reports for which either the project activity is not complete, the report is not in final form, or the work is not ready to present may represent serious academic misconduct resulting in failure to pass EE 697 or other penalties. Presentations will not be scheduled unless the submitted project report is in **FINAL FORM**.

See <http://www-ece.eng.uab.edu/GradInfo/MSEEmethodandthesispolicies.pdf>

In order to get the required advisor approvals for the Problem Statement and Project Report, please work with the advisor to develop a draft of the document and submit the draft to the advisor no later than on the **Draft Report Due Date** listed above. Note that several revisions may be needed before the advisor will sign the report, and that you must plan around any periods during which your advisor is out of town as necessary to obtain the advisor's signature by the **Final Report Due Date** listed above.

### **The Problem Statement**

The Problem Statement consists of the following sections: Project Title, Introduction, Project Description, Project Plan, and Risk Analysis.

- The Introduction (one page minimum) presents the problem statement and explains why the work is important, how the work fits in to a larger problem, how the work will be done, and what will be delivered at the project's conclusion (the deliverables).
- The Project Description (two page minimum) describes in detail what work will be done, what skills and standards of engineering practice will be employed, what alternatives will be considered, and how the resulting work product will be evaluated and tested. Alternatives for how the work could be done should be listed and discussed in detail.
- The Project Plan (two page minimum) lists the activities and tasks needed to produce each of the deliverables. It lists the major project milestones and dates by which the milestones should be completed. Milestones are the major steps or tasks that must be accomplished as part of the process of completing the project.
- There is always some uncertainty associated with projects. The Risk Analysis (one page minimum) consists of a brief discussion of possible outcomes, events, factors, or uncertainties that may disrupt the work and the alternative paths to be taken should these outcomes or events occur.

### **The Project Report**

1. The report must be well written and it must exemplify correct spelling, grammar and punctuation. It must be well organized using proper main sections and subsections, with consistent spacing between sections. References must be cited appropriately according to IEEE format. The report must include at least the following sections, and may include as many as six or seven sections if necessary.
  - Abstract. The abstract should briefly explain what work was done, why it was important, how it was done, and what was learned or accomplished through the work. Write the abstract last, because the report should stand on its own without the abstract. The reader should not have to have the abstract available to make sense of the rest of the report.
  - Introduction. The introduction is to be written in the present or future tense. It must explain why the work will be done, what will be accomplished when the work is finished, and how the work fits into a larger problem.
  - Main Body Sections (use a title appropriate for the work). The main body of the report should explain in detail what work was done, how it was done, and it should present the results. It would typically consist of the "Methods" and "Results" sections, although if acceptable to your advisor, other section titles may be used if they are more appropriate. Do not use "Main Body" or "Body" as the title of a report section.
  - Discussion. The discussion should be written in the past tense, except when explaining next steps. It should describe what was learned or accomplished, the process used in working the problem, the correctness of the result, and what will happen next.
  - References. The source of any material or information used in your work that is not originally yours, whether published, written but not published, or spoken, must be documented by a

reference. References, including Internet sources, must be listed using IEEE format in the order in which they are cited in the text.

Please see the discussion of **Academic Ethics and Conduct** in [The UAB Graduate Student Handbook](http://www.uab.edu/graduate/UAB_Grad_Handbook.pdf). ([http://www.uab.edu/graduate/UAB\\_Grad\\_Handbook.pdf](http://www.uab.edu/graduate/UAB_Grad_Handbook.pdf)) Pay special attention to the section on plagiarism. Using the work of other people and representing it as your own is plagiarism. Examples of plagiarism include improper citation of referenced works, use of commercially available scholarly papers, failure to cite sources, and copying others' ideas. Proper citation of reference works and ideas, words, data, computer programs, creative compositions, artwork, etc., done by someone else is required. Please note that a student who commits an act of academic misconduct, including plagiarism, may be given the grade of *F* in the course in which the misconduct occurred, and may receive other consequences. See <http://www.uab.edu/graduate/publications/plagiarism.pdf> and see a presentation on plagiarism and the use of references at [http://www.uab.edu/profdev/ppt/writing/ethics/jsa\\_2002\\_files/frame.htm](http://www.uab.edu/profdev/ppt/writing/ethics/jsa_2002_files/frame.htm).

Graphical work such as charts, plots, or graphs should be used when necessary and must meet the expectations of the faculty. Descriptive titles should be provided for all the graphical work. If a figure complements some analytical work, the variables from the analysis must be shown on the figure.

2. The report must be prepared according to the formats listed in the documents below that are available at the IEEE Author Tools URL.

<http://www.ieee.org/web/publications/authors/transjnl/index.html>

- [IEEE "Information for Authors" kit](#),
- [IEEE Style Manual](#), and
- [Template and Instructions on How to Create Your Paper](#)

Use the template to develop the report in a two-column format. Any other materials required by the advisor are to be submitted as an appendix section of the report that follows the reference section. The appendix may be in a format specified by the advisor, but should be prepared carefully and using proper documentation practices.

3. IMPORTANT! Use the following references for organizing the report and determining how to write each section of the report.

Through The University of Alabama at Birmingham eContent Collection:  
How to Write and Publish a Scientific Paper, 5th edition. Orynx Press. Day, R. 1995.  
[www.netlibrary.com/ebook\\_info.asp?product\\_id=7615](http://www.netlibrary.com/ebook_info.asp?product_id=7615)

**HOW DO I WRITE A SCIENTIFIC PAPER?**

<http://www.scidev.net/en/practical-guides/how-do-i-write-a-scientific-paper-.html>

4. Use the following references for the use of English and grammar and preparation of the report and its presentation.

[The Elements of Style](http://www.bartleby.com/141/)  
<http://www.bartleby.com/141/>

[Writing Guidelines for Engineering and Science Students](http://www.writing.eng.vt.edu/index.html)  
<http://www.writing.eng.vt.edu/index.html>

**The Project Presentation**

The oral project presentation must be designed to convey a description of the work without the benefit of the long written explanations available in the project. The presentation serves to convey the main points of the work assuming that the audience will read the report and the references if more detail is desired. Only work that was included in the report submitted should be presented.

- The presentation must be made within a specified time limit (usually about twenty minutes) using an appropriate number of slides. About twelve to fifteen slides are usually appropriate for a twenty-minute presentation.
- The presentation must include an introduction that states the problem, presents the motivation for the work, tells what will be accomplished when the work is done, and explains how the work fits into a larger problem.
- The presentation must clearly describe what work was done and how it was done. Results and evaluation of the results must be presented. The presentation should include a brief demonstration if possible.
- There will be questions. The student must listen to and understand the question before answering, and must provide answers that are concise, to the point, and in enough depth.

Graphical work such as charts, plots, or graphs must meet the presentation expectations of the faculty. Descriptive titles should be provided for all the graphical work. If a figure complements some analytical work, the variables from the analysis must be shown on the figure.