The 198A and 198B are group design project courses that each student must spend two full semesters to complete. At the beginning of 198A semester, each group of (two to four) seniors will propose an EE approved area design project to the advisor (to me). Once the overall topics have been verbally accepted by the advisor and agreed by all the team members. The study, research, and the process of proposing the project will be carried out by all team members throughout the 198A semester. The proposing process basically includes:

- Regular internal meetings between team members (at least 1 hour per week)
- Regular meetings between the advisor and all team members (normally 8 meetings per semester)
- Group seminars (typically 2 seminars per semester)
- Progress reports to the advisor
- Individual study, research, etc.

The final products of 198A are a **formal 198A proposal** together with a **formal oral presentation**. Please note that these assignments are assigned by the project advisor, where students must also complete all other assignments as specified by the 198A course coordinator.

**Objectives**

The objectives of 198A and 198B can be summarized as below:

- Hand-on experience based on the knowledge and skills acquired in earlier coursework
- Develop engineering ethics and its social implication
- Develop ability of team-work
- Develop ability of independent and life-long learning
- Develop communication and presentation skills
- Expose to non-technical issues regarding engineering profession (contemporary issues)

**Outcomes and Evaluations**

From the objectives listed above, outcomes for 198A and 198B project can be summarized as below. Students will be evaluated by the advisor based on the objectives (listed above) and outcomes (as listed below). Please note that students working on the project as a team but evaluation (for grading purpose) will be performed based on individual basic. Students must demonstrate that they are:

- Able to apply knowledge and skills acquired in earlier coursework
- Able to perform team work with engineering ethics and its social implication
- Able to identify and propose solution to an engineering problem
- Able to study, research, work independently, and prepare for life-long-learning
- Able to identify and keep their own responsibilities
- Able to function in teams and can communicate effectively in group endeavor

In additions to the objectives and outcomes listed above, 198B students are also responsible for completing the project as proposed in 198A proposal. All specifications and functionalities specified in 198A proposal must be justified. Additional outcomes for 198B include the complete implementation of the project, a live demonstration, an oral presentation, and a project completion report.
# 198A Senior Project Schedule  (Term: ______)

**Project Title:** 

**Members:**
1. 
2. 
3. 
4. 

<table>
<thead>
<tr>
<th>Date</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Finalize the project schedule, objective, title, functions, etc.</td>
</tr>
<tr>
<td></td>
<td>Turn-in written sections on “Project Schedule”, “Abstract”, and “Introduction”</td>
</tr>
<tr>
<td></td>
<td>Discussions about project specifications, features, and parts</td>
</tr>
<tr>
<td></td>
<td>Fill-up the “Date” on this Schedule sheet</td>
</tr>
<tr>
<td></td>
<td>Return sections on “Schedule”, “Abstract”, and “Introduction” with corrections</td>
</tr>
<tr>
<td></td>
<td>Turn-in written sections on “Specifications &amp; Features”</td>
</tr>
<tr>
<td></td>
<td>Detailed discussion about the technical contents of the project</td>
</tr>
<tr>
<td></td>
<td>Return sections on “Specifications &amp; Features” with corrections</td>
</tr>
<tr>
<td></td>
<td>Turn-in written section on “Cost Analysis”</td>
</tr>
<tr>
<td></td>
<td>Return section on “Cost Analysis”</td>
</tr>
<tr>
<td></td>
<td>Turn-in written sections on “Hardware Block Diagram” and “Software Block Diagram”</td>
</tr>
<tr>
<td></td>
<td>Return sections on “Hardware Block Diagram” and “Software Block Diagram” with corrections</td>
</tr>
<tr>
<td></td>
<td>Turn-in presentation materials</td>
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<tr>
<td></td>
<td>Return presentation materials with corrections</td>
</tr>
<tr>
<td></td>
<td>Turn-in completed 198A proposal</td>
</tr>
<tr>
<td></td>
<td>Return completed 198A proposal report with corrections</td>
</tr>
<tr>
<td></td>
<td>Discussions of presentation technique</td>
</tr>
<tr>
<td></td>
<td>Turn-in final presentation materials</td>
</tr>
<tr>
<td></td>
<td>Turn-in final 198A proposal</td>
</tr>
</tbody>
</table>
General Outline for 198A Proposal
(Use this proposal format only if there is no proposal format required by 198A coordinator)

Cover page (one page):
Include the university name, department, semester, year, date, course (EE198A Senior Design Project), project title, advisor name, student names

Abstract (one page)

Table of Contents (one page)

1. Introduction (one page)
   Explain the reasons of doing this project and the main objective of the product

2. Specifications and Features (start new page)
   • Describe overall expected functionality of the product
   • List expected features of the product
   • Describe expected specifications of the product such as the required input data, kinds of output results, input/output formats, the limitations of the product, etc.
   • Describe and derive any expected mathematic formula or any other calculations involved in the project

3. Design Overview (start new page)
   • Overall description of the proposed hardware for the product
   • The proposed hardware block diagram
   • Overall description of the whole system software
   • Block diagram of the proposed developed software

4. Verification and Validation (start new page)
   • Overall description of the verification process
   • Overall description of the test plan, procedure, test and benchmark data and results

5. Cost Estimate (start new page)
   Estimate the cost of each component and of the whole product, including the whole sale price

6. Project Schedule (start new page)
   Define the detailed schedule for both 198A and 198B, including the responsibilities of each team members

7. Conclusion (start new page)

References (start new page)

Appendices (start new page)
Copies of supported documents of the proposal, including specifications and data sheets of the components, parts, chips, etc.
Guidelines on Project Oral Presentation

Organization

- **Introduction**: Title, names, project objective, motivation, background information.
- **Presentation outline**: Break down the presentation into sections and associate each section with its presenter's name.
- **Main body of the presentation**: Present your approach in a logical order.
- **Closing remarks**: Design specifications, cost, and project schedule.

Contents

- You have less than 5 minutes! Concentrate on few points, which you want the audience to remember.
- Don’t lecture.
- Your audiences are the students, not your advisor.

Delivery

- Use at least 20 points font size on all slides.
- Avoid detailed schematics and equations.
- For each diagram, give an introduction before going into detail.
- You may use reminder note but don’t just read it.
- Speak loud enough for the audience to hear you clearly.
- Establish and maintain eye contact with the audience.
- Pace yourself for the allocated time.
- PRACTICE, PRACTICE, and PRACTICE.
SAN JOSE STATE UNIVERSITY
College of Engineering
DEPARTMENT OF ELECTRICAL ENGINEERING

General Outline for 198B Project Report

Cover page (one page): Include the university name, department, semester, year, date, course (EE198B Senior Design Project), project title, advisor name, student names

Acknowledgement (one page): Acknowledge any one who helped you with the project, including technical supports from the vendors

Executive Summary (one page): Summarize what you have done and how your product work

Table of Contents (one page)
- Include name(s) of the author(s) for each section. Example:
  - Introduction (John Doe) .............. 3

1. Introduction (one page)
- Explain the reasons of doing this project with background information about the product
- Explain the main objective of the product

2. Specifications and Features (start new page)
  2.1 Features
  - Describe overall functionality of the product
  - List features of the product
  2.2 Specification
  - Describe the specifications of the product such as the required input data, kinds of output results, input/output formats, the limitations of the product, etc.
  - Describe and derive any mathematic formula or any other calculations involved in the project

3. Hardware and Software Components (start new page)
  3.1 Hardware Components
  - Overall description of the product’s hardware
  - The hardware block diagram
  - Descriptions of each hardware component, including its specifications and features
  3.2 Software Components
  - Overall description of the whole system software
  - Descriptions of each software component involved with the project, including compiler, communication software for file transfer, downloading/uploading, etc.
  - Block diagram of the software developed for the project
  - Detailed flowchart of the software developed for the project

4. Verification, Testing, Validation and Analysis (start new page)
- Describe your verification process during the implementation and after the completion
- Description of test problems, testing schemes and methods used to test the development
- Discuss the test results and any other related matters

5. Conclusion (start new page)
- Describe the cost of each component and of the whole product
- Describe the schedule that the team has gone through in doing the project
- Describe the responsibilities of each team member
- Give conclusion about the product, suggest and discuss any further study and development to improve the product

References (start new page)

Appendix A (start new page): Include detailed schematics of the whole system/product

Appendix B (start new page): List and describe commands and procedure used for all software involved in the project, including file transfer, compiling, etc.

Appendix C (start new page): Include the whole program source files that were developed during the project

Appendix D (start new page): Copies of useful documents from the vendors, books, Internet sites, etc.