San José State University
Department of Electrical Engineering
EE 198B, Senior Design Project II, All Sections, Spring 2020

Course and Contact Information

Instructor: Thuy T. Le
Office Location: E 349
Telephone: (408) 924-5708
Email: Thuy.Le@sjsu.edu
Office Hours: Friday 13:00 to 15:00 and by appointment
Class Days/Time: Saturday, 09:00 – 18:00
Classroom: ENG345 for some Friday meetings (11:00 to 12:00).
EE labs for projects
Prerequisites: EE 198A with grade of "C" or better. Senior EE students in good standing.
Co-requisite: ENGR 195B.

Course Format

Course Description
Implementation of group design projects initiated in EE 198A. Group oral and written reports.
Integrate global and social issues in engineering. GE Area: V when taken as part of the EE Major
sequence. Meets GE Areas S and V when course is taken in combination with EE 198A, ENGR
195A and ENGR 195B.

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

1. Apply knowledge and skills acquired in earlier coursework to identify, formulate, and
   propose a sound solution to an engineering problem (1,2)
2. Fabricate a system, device or component (1,2)
3. Test a system, device or component (1,2,6)
4. Can function effective in a team. (5)
5. Research an Electrical Engineering topic (7)
6. Write individual engineering reports (3)
7. Write final Engineering Team reports (3)
8. Orally present Engineering ideas and results (3)
9. Have an understanding of ethics, social implication of engineering, and the need for life-
   long-learning (2,4,7)

The number in the parentheses corresponds to the ABET outcome as listed below.

1. an ability to identify, formulate, and solve complex engineering problems by applying
   principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with
   consideration of public health, safety, and welfare, as well as global, cultural, social,
   environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Student Learning Objectives for GE Area V of SJSU Studies (Advanced GE)

- GELO 1: Students shall be able to compare systematically the ideas, values, images, cultural artifacts, economic structures, technological developments, or attitudes of people from more than one culture outside the U.S. GELO 1 is covered in ENGR 195B Reflection Paper, EE 198B GE Area V Essay 2 (minimum 750 words) and EE 198B oral presentation
- GELO 2: Students shall be able to identify the historical context of ideas and cultural traditions outside the U.S. and how they have influenced American culture. GELO 2 is covered in ENGR 195B Reflection Paper and EE 198B GE Area V Essay 1 (minimum 750 words)
- GELO 3: Students shall be able to explain how a culture outside the U.S. has changed in response to internal and external pressures. GELO 3 is covered in ENGR 195B - Reflection Paper

Required Texts/Readings (Required)

Textbook
None

Other Readings
Reading materials are selected by students and project advisors

Library Liaison: Rachel Silverstein, rachel.silverstein@sjsu.edu

The San Jose State University Library has a collection of journals, books, e-books, databases, and research tools that can support the Electrical Engineering department and MS degree curriculum. The library offers online research guides and Canvas (Learning Management System) information literacy resources for department and subject areas, including Electrical Engineering (http://libguides.sjsu.edu/ee). The library liaison will support faculty and students with research instruction and additional resources, as requested, in person and online through the library website (https://library.sjsu.edu/).

Course Requirements and Assignments

Besides individual effort, all students must complete their projects and assignments as listed below. A student who does not finish her/his project, s/he will be graded according to how much
of the project proposal that s/he fulfilled. See the “Grading Information” in this syllabus for assignment weighting, grade distribution and method of submissions.

- A (group) Midterm Report (evaluated by advisor)
- An (group) Oral Presentation (evaluated by advisor)
- A (group) Poster Presentation at Student Project Symposium (evaluated by advisor)
- A (group) Final Project Written Report (evaluated by advisor)
- A (group) Meeting Log File that shows the meeting dates, times, and topics of discussion with project advisors and/or among team members (evaluated by instructor)
- Two (individual) EE198B GE Area V Essays (evaluated by GE Area V graders)

The individual EE198B essays are summarized as below:

- EE 198B GE Area V Essay 1 (minimum 750 words): Consider a technology invented outside of the U.S. in your discipline. (a) Describe the cultural and social factors that led to this technology’s “invention.” (b) Describe how this invention has evolved and influenced the culture of the U.S.

- EE 198B GE Area V Essay 2 (minimum 750 words): Assume that your project is about to turn into a successful company. Using the studies provided in ENGR195A/B as a background, write about how to take into account at least two aspects (for example ideas, values, images, cultural artifacts, economic structures, or technological developments) while evaluating your decision to manufacture your product in two other countries.

**Expected time commitment**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practice. Other course structures will have equivalent workload expectations as described in the syllabus.

**Final Examination or Evaluation**

EE 198B is a project-based class. The final evaluations include a poster presentation at student project symposium, an (in-class) oral presentation, and a final project written report.

**Grading Information**

The weights of course work assignments for the determination of letter grades are as below. If you do not finish your project, you will be graded according to how much of the proposal you fulfilled. **All written assignments must be submitted in class CANVAS**

- 20% for individual effort (graded by advisor)
- 5% for (group) midterm report (submission in PDF format in CANVAS, graded by advisor)
- 15% for (group) oral presentation (submission in PPT or PPTX format in CANVAS, graded by advisor) - All students are required to do oral presentation to receive EE198B grade
- 5% for (group) poster presentation (submission in PPT or PPTX format in CANVAS, graded by advisor) – All students are required to do poster presentation to receive EE198B grade
- 30% for project achievement and (group) final written report (submission in PDF format in CANVAS, graded by advisor)
5% for (group) meeting log file (submission in PDF format in CANVAS, graded by instructor)

20% for 2 (individual) EE198B GE Area V essays (10% for each essay, submissions in PDF format in CANVAS. Graded by GE Area V graders). Each student must achieve a minimum of 74.00% (of this 20%) to receive EE198B course grade. Topics of the 2 essays are listed below:

- Essay 1: Technology Invented Outside of the U.S. (10%)
- Essay 2: Successful Company (10%)

The EE198B GE Area V essay assignments are individual assignments. Correct use of English is a fundamental requirement for your essays to be graded. If errors in English make it difficult for a grader to understand your sentences, or excessively slow down the grader to mark your technical errors, your essay will be returned to you for further work on its English, and your grade for the essay will be deferred until it is resubmitted with corrected English. If your assignment is returned, you will be allowed to rewrite and resubmit it within two weeks of the original return date, and a 10% grade deduction will be made to an essay submitted up to two weeks late. If not resubmitted within two weeks, you will receive a zero for the writing assignment. No paper will be accepted two weeks after the due date. Grades from re-submitted essays can only be used to bring the average GE Area V grade up to 74.00%, i.e., the passing grade for Area V.

**Determination of Grades**

Students must get minimum of 74.00% of the Area V grade (20% of the course grade) in order to get a passing grade for EE198B.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>94.00% and above</td>
<td>A</td>
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<tr>
<td>93.99% - 90.00%</td>
<td>A minus</td>
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<tr>
<td>89.99% - 87.00%</td>
<td>B plus</td>
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<tr>
<td>86.99% - 84.00%</td>
<td>B</td>
</tr>
<tr>
<td>83.99% - 80.00%</td>
<td>B minus</td>
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<tr>
<td>79.99% - 77.00%</td>
<td>C plus</td>
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<tr>
<td>76.99% - 74.00%</td>
<td>C</td>
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<tr>
<td>73.99% - 70.00%</td>
<td>C minus</td>
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<tr>
<td>69.99% - 67.00%</td>
<td>D plus</td>
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<td>D</td>
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<td>63.99% - 60.00%</td>
<td>D minus</td>
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<tr>
<td>below 60.00%</td>
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Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C not accepted), and completion of Core General Education are prerequisite to all SJSU Studies courses. Completion of, or co-registration in, 100W is strongly recommended. A minimum aggregate GPA of 2.0 in GE Areas R, S, & V shall be required of all students.

**Classroom Protocol**

**Cell Phones:** Students will turn their cell phones off or put them on vibrate mode while in class. They will not answer their phones in class. Students whose phones disrupt the course and do not
Computer Use: In the classroom, students are allowed to use computers only for class-related activities. These include activities such as taking notes on the lecture underway, following the lecture on Web-based PowerPoint slides that the instructor has posted, and finding Web sites to which the instructor directs students at the time of the lecture. Students who use their computers for other activities or who abuse the equipment in any way, at a minimum, will be asked to leave the class and will lose participation points for the day, and, at a maximum, will be referred to the Judicial Affairs Officer of the University for disrupting the course. (Such referral can lead to suspension from the University.) Students are urged to report to their instructor computer use that they regard as inappropriate (i.e., used for activities that are not class related).

University Policies (Required)
Per University Policy S16-9 (http://www.sjsu.edu/senate/docs/S16-9.pdf), relevant information to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is available at Office of Graduate and Undergraduate Programs’ Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/”. Make sure to visit this page, review and be familiar with these university policies and resources.

EE 198B, Senior Design Project II, All Sections
Spring 2020 Course Schedule

The schedule is subject to change with fair notice by email and class canvas or announcement

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01/24</td>
<td>Information Meeting in E345 (11:00 AM)</td>
</tr>
<tr>
<td>2</td>
<td>01/31</td>
<td>Meet with group’s Advisor</td>
</tr>
<tr>
<td>3</td>
<td>02/07</td>
<td>Meet with group’s Advisor</td>
</tr>
<tr>
<td>4</td>
<td>02/14</td>
<td>Meet with group’s Advisor</td>
</tr>
<tr>
<td>5</td>
<td>02/21</td>
<td>Prof. Backer’s presentation on Area V (Essay #1) in E345 (11:00 AM)</td>
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| 6    | 02/28| Meet with group’s Advisor
|      |      | (Individual) GE Area V Essay #1 due      |
| 7    | 03/06| Meet with group’s Advisor                |
| 8    | 03/13| (Group) Midterm report due               |
| 9    | 03/20| Prof. Backer’s presentation on Area V (Essay #2) in E345 (11:00 AM) |
| 10   | 03/27| Meet with group’s Advisor
<p>|      |      | (Individual) GE Area V Essay #2 due      |
| 11   | 04/03| Spring Recess – Campus Closed            |
| 12   | 04/10| Meet with group’s Advisor                |</p>
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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>04/17</td>
<td>Meet with group’s Advisor</td>
</tr>
<tr>
<td>14</td>
<td>04/24</td>
<td>Meet with group’s Advisor</td>
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<tr>
<td>15</td>
<td>05/01</td>
<td>Meet with group’s Advisor</td>
</tr>
<tr>
<td>16</td>
<td>05/07</td>
<td>Powerpoint presentation and poster submission due on 05/07, before noon (In-class, group) Oral presentation (12:00 – 15:00) - tentative</td>
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<tr>
<td>17</td>
<td>05/11</td>
<td>(Group) Final written report due</td>
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<td></td>
<td>05/11</td>
<td>(Group) Meeting log file due</td>
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<tr>
<td></td>
<td>05/15</td>
<td>(Group) Poster presentation at Student Project Symposium (09:00 – 11:00)</td>
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