San José State University
College of Engineering /Computer Engineering Department
CMPE 195B – Senior Design Project II, Spring, 2015

Instructor: Keith C. Perry
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Office Hours: TBA
Class Days/Time: TBA
Class Location: TBA
Prerequisites: CMPE 195A (With a grade of C or better)
Corequisite: ENGR 195B

Course Description
Implementation of group design project initiated in CMPE 195A; group oral presentation and written report; integrated global and social issues in engineering

Student Learning Objectives for Area V of SJSU Studies (Advanced GE)
V-LO1: compare systematically the ideas, values, images, cultural artifacts, economic structures, technological developments, and/or attitudes of people from more than one culture outside the U.S.
- ENGR 195B Essay 3: Write an essay that compares the ideas, values, technological developments, and/or attitudes of people from at least two different countries outside the US. Your essay must focus on renewable energy and one of your countries in your essay must be from your article (see details on individual assignment) (1000 words).
- CMPE 195B Reflection Paper 1: 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. (500-750 words)

V-LO2: identify the historical context of ideas and cultural traditions outside the U.S. and how they have influenced American culture
- ENGR 195B Essay 1: Choose one of the following technological developments that were discussed in the web tutorial: the mechanical clock, gunpowder, the Great or Jersey wheel, printing, or the compass. Write an essay that addresses the following topics. When you respond to these topics, you should be specific and cite specific details either from the web tutorial or your own research. You should cite specific events and/or cultures as you answer these questions. (minimum length 500 words).
  - Discuss the history of the technology from its early beginnings to the Renaissance. Please discuss at least three different events in the history of the mechanical clock.
  - Describe one force (e.g., historical, cultural, social, economic, political) that affected the development of the technology?
  - How did the development and use of the technology affect Europe in the Middle Ages?
Overall, how did the technology affect the United States?

- CMPE 195B Essay 1. 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. (250-500 words)

V-LO3: explain how a culture outside the U.S. has changed in response to internal and external pressures.

- ENGR 195B Essay 2: Imagine you are part as part of a group of Engineers to Guatemala at the request of Habitat for Humanity. You have been hired to come up with a plan that will alleviate or at least mitigate the effects of Hurricane Stan on the Mayan communities in the Highlands. When thinking about your plan, you must consider all angles of the problem (for example, language barriers, culture, disease, landforms, seasonal weather, transportation, building materials, distrust and fear, etc.) (1000 words)

- CMPE 195B Case Study 1: Explain how internal and external pressures have changed India’s culture due to computer/software engineering outsourcing. (250-500 words)

- CMPE 195B Case Study 2: Assume your project has become very successful in the U.S. Describe how your product will put pressure on a culture outside the U.S. (You have to choose a specific country). Use the social and cultural processes introduced in ENGR195A&B to guide your answer. (500-750 words)

**Student Learning Objectives**

By the end of the course, a student should gain the followings:

1. Apply knowledge of design processes, and of computer hardware and software to the construction of a computer/software engineering artifact. (c)
2. Identify, formulate and solve computer/software engineering problems. (e)
3. Understand requirements; be able to turn such requirements into an implementation plan, and to be able to define quality criteria for the deliverable results of such an implementation. (c)
4. Design and conduct quality assurance experiments, as well as to analyze and interpret the results of such experiments. (b)
5. Be able to communicate designs, implementation plans, project reports, and project retrospectives at a budding professional level. (g)
6. Explain the roles the deliverable artifacts may play in an organizational or larger setting. (d)
7. Be able to select and use the modern tools in developing and validating computer hardware/software components and integration. (k)
8. Work in a team with diverse skill sets. (d)
9. Be able to understand the impact of a given computer engineering solutions in a global, economic, environmental, and societal context. (h)
10. Discuss the role of identity, equality, social actions, and culture in solving technical problems. (Integration of Area S and Engineering.)

**ABET Outcomes**

The letters in parentheses in the course learning objectives refer to ABET criterion 3 outcomes satisfied by the course. These are listed below as a reference:
(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(c) An ability to design a system, component, or process to meet desired needs
(d) An ability to function on multi-disciplinary teams
(e) An ability to identify, formulate, and solve engineering problems
(f) An understanding of professional and ethical responsibility
(g) An ability to communicate effectively
(h) The broad education necessary to understand the impact of engineering solutions in a global
   and societal context
(i) A recognition of the need for, and an ability to engage in life-long learning
(j) A knowledge of contemporary issues
(k) An ability to use the techniques, skills, and modern engineering tools necessary for
   engineering practice

Course Requirements
• In order to pass the class, each student is required to satisfy all of the following
  activities:
  1. Follow the instructions posted on Canvas
  2. Complete a Prerequisite Agreement Form
  3. Complete the General Education S&V integration activities
  4. Deliver a copy of the Syllabus to the project supervisor
  5. Demonstrate attention to punctuality and sensitivity to time requirements
  6. Complete all project tasks and meet all of the milestones
  7. Seek and address continuous guidance from project supervisor
  8. Deliver a final project report and demo based on the given schedule.
  9. Make the final project presentation
 10. Present project poster session at Project Exposition
 11. Take exit interview on time.

• At the end of the semester, each team is required to
  1. Deliver a final project report with supporting artifacts such as user manual, and
     source code.
  2. Demonstrate prototypes and other artifacts during the project presentations

• As with many engineering projects, a written deliverable needs to achieve a minimum
  level of quality to be acceptable at all. For this course the minimum level is defined
  as Writing Proficiency Exam (WPE) level 4 or better. Failure to achieve the
  minimum threshold results in an F in the class.

Required Textbook
• No Required Textbook

Other Readings/videos
• The Purdue Online Writing Lab:  http://owl.english.purdue.edu/
• APA 6.0
  http://www.youtube.com/results?search_query=apa+format+word+2007&aq=1
  https://sjsu.desire2learn.com/d2l/lms/content/preview.d2l?tId=1199589&ou=119415
Recommended References

- Table of Contents, etc.

http://www.youtube.com/watch?v=OkyisWIE3kQ

Additional course material will also be made available on Canvas.

Classroom Protocol

- Attend classes on time and turn-off your cell phone.

Recommended References


SJSU Senate Policy S12-3

This new policy requires the university to be compliant with the Federal Regulation of the definition of the credit hour:

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five 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 practica. Other course structures will have equivalent workload expectations as described in the syllabus.”

Classroom Protocol

Each student is required to attend both in-person and on-line class sessions on time and engage in all class activities. Turn off your cell phone.

Collaborative Work

Some of the work in the class is done in groups. The names of all contributors on any project component that is submitted and that is the result of collaborative efforts must identify precisely who contributed what.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at URL: http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic calendar web page located at URL: http://www.sjsu.edu/calendars/

The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.
Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Assignments and Grading Policy
20% Project report. Your project advisor and other faculty will evaluate your report
15% Project demo
10% Project presentation
10% Life-long-learning report
10% Assignments on engineering ethics
7.5% Reflection Paper 1
7.5% Case Study 2
5% Case Study 1
5% Essay 1
5% Modern tool usage
5% Team work

*subject to achieving Writing Proficiency Exam level 4 or better for all written communication.

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>&gt; 94</td>
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<tr>
<td>A</td>
<td>90 – 93.99</td>
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<tr>
<td>A-</td>
<td>85 – 89.99</td>
</tr>
<tr>
<td>B+</td>
<td>80 – 84</td>
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<tr>
<td>B</td>
<td>75 – 79.99</td>
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<tr>
<td>B-</td>
<td>70 – 74.99</td>
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<tr>
<td>C+</td>
<td>65 – 69</td>
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<tr>
<td>C</td>
<td>60 – 64.99</td>
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<tr>
<td>C-</td>
<td>55 – 59.99</td>
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<tr>
<td>D+</td>
<td>50 – 54</td>
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<td>D</td>
<td>45 – 49.99</td>
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<tr>
<td>D-</td>
<td>40 – 44.99</td>
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<tr>
<td>F</td>
<td>&lt; 40</td>
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The following are important requirements for the class.

Project Registration
Each student must register their project for CMPE 195B at
This must be completed by the date listed in the schedule below. Failure to do so may cause you to fail the course.

Class Online Management
This course will use Canvas for receiving assignments and project information, assignment submission, online discussion, plagiarism detection, grading, surveys, etc. Please use your MySJSU login to access Canvas at https://sjsu.instructure.com.

Student can register for workshops entitled “Getting started with Canvas” at:
http://www.sjsu.edu/at/ec/aboutus/ecampusevents/index.html
If you are having problems logging on, please submit a ticket
https://isupport.sjsu.edu/ecampus/ContentPages/Incident.aspx
Canvas student resources:
Collaborative Work
Some of the work in the class is done in groups. The names of all contributors on any project component that is submitted and that is the result of collaborative efforts must identify precisely who contributed what.

Policy on Exams and Tests
There are no makeup assignments, reports, in-class tests and exams.

Report Due Dates
Late reports are not acceptable. In this case, the grade of any late reports will be assigned a “zero” mark.

Report Advisor Signatures
It is the student’s responsibility to secure the required advisor’s signature on time. The grade of a report without the advisor’s signature will be assigned a “zero” mark.

University Policies
Academic integrity
Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University’s Academic Integrity policy, located at http://www.sjsu.edu/senate/S07-2.htm, requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://dev.sjsu.edu/studentconduct/.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act
If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the Disability Resource Center (DRC) at http://www.drc.sjsu.edu/ to establish a record of their disability.
Student Technology Resources

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library.

A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Peer Connections

The Learning Assistance Resource Center (LARC) and the Peer Mentor Program have merged to become Peer Connections. They are located in Room 600 in the Student Services Center (The 10th Street Garage located on the corner of 10th and San Fernando). It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The Peer Connections website is located at http://peerconnections.sjsu.edu/

SJSU Writing Center (Optional)

The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. The Writing Center website is located at http://www.sjsu.edu/writingcenter/about/staff/.
Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TBD</td>
<td>Lecture at 12:00 pm. Sign prerequisite agreement and submit with transcript to the department</td>
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<tr>
<td>2</td>
<td>TBD</td>
<td>Meet with your project advisor&lt;br&gt;Submit Weekly Report Schedule confirmed with your advisor</td>
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<tr>
<td>3</td>
<td>TBD</td>
<td>Meet with your project advisor</td>
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<tr>
<td>4</td>
<td>TBD</td>
<td>Register project online&lt;br&gt;Meet with your project advisor</td>
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<tr>
<td>5</td>
<td>TBD</td>
<td>Lecture at 12:00 pm. Project Teamwork</td>
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<td>6</td>
<td>TBD</td>
<td>Meet with your project advisor&lt;br&gt;CMPE 195B Essay 1</td>
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<td>7</td>
<td>TBD</td>
<td>Submit individual professional plan</td>
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<td>8</td>
<td>TBD</td>
<td>Meet with your project advisor&lt;br&gt;CMPE 195B Case Study 1</td>
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<td>9</td>
<td>TBD</td>
<td>CMPE 195B Case Study 2</td>
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<tr>
<td>10</td>
<td>TBD</td>
<td>Lecture at 12:00: Project Milestone Check</td>
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<tr>
<td>11</td>
<td>TBD</td>
<td>Lecture at 12:00 pm: Life-Long-Learning with Class Exercises</td>
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<tr>
<td>12</td>
<td>TBD</td>
<td>Meet with your project advisor&lt;br&gt;Lecture at 12:00 pm: Professional Ethics with Class Exercises</td>
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<tr>
<td>13</td>
<td>TBD</td>
<td>Upload project report to Canvas and email to advisor. Meet with advisor to review it.&lt;br&gt;CMPE 195B Reflection Paper 1</td>
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<tr>
<td>14</td>
<td>TBD</td>
<td>Lecture at 12:00 pm: Project Presentations&lt;br&gt;Exit Interviews scheduled</td>
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<tr>
<td>15</td>
<td>TBD</td>
<td>Upload final project to Canvas that has been electronically signed by your advisor.</td>
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<tr>
<td>16</td>
<td>TBD</td>
<td>Project Exposition – Present project in the Barrett Ballroom at the Student Union between 1:00 and 4:00. Arrive at 12:30 to set up your project display.&lt;br&gt;<a href="http://bit.ly/sjsu-cmpe-project-expo">http://bit.ly/sjsu-cmpe-project-expo</a></td>
</tr>
</tbody>
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