

Department of Electrical and Electronic Engineering, California State University

EEE and CpE Combined Sections – All section specific information will be updated when it becomes available.

Computer Engineering – CpE 190 System Design Lecture and Laboratory, 2 units

Lecture – Tatro

Fall 2020, ~~Section 1, Call No. 82337~~, Mon 12:00 – 12:50 P.M., Riverside Hall, Room 3001

Laboratory - Levine

Fall 2020, ~~Section 2, Call No. 82338~~, Mon 1:00 – 3:40 P.M., Riverside Hall, Room 3001

Laboratory – Tatro

Fall 2020, ~~Section 3, Call No. 82453~~, Mon 1:00 – 3:40 P.M., Riverside Hall, Room 3001

Prerequisite: CPE 142, CPE 166, CPE 186, CPE 187, EEE 108. WPE, or scored 70+ on the WPJ, or passed ENGL 109M or ENGL 109W with at least a C-.

E&E Engineering – EEE 193A System Design Lecture and Laboratory, 2 units

Lecture – Tatro

Fall 2020, ~~Section 1, Call No. 82407~~, Mon 12:00 – 12:50 P.M., Riverside Hall, Room 3001

Laboratory - Levine

Fall 2020, ~~Section 2, Call No. 82408~~, Mon 1:00 – 3:40 P.M., Riverside Hall, Room 3001

Laboratory – Tatro

Fall 2020, ~~Section 3, Call No. 82454~~, Mon 1:00 – 3:40 P.M., Riverside Hall, Room 3001

Prerequisite: EEE 108, EEE 109 (EEE 109 may be taken concurrently), EEE 130, EEE 161, EEE 174, EEE 180. WPE, or scored 70+ on the WPJ, or passed ENGL 109M or ENGL 109W with at least a C-.

Objectives of Course: This course centers on developing hardware and software, project planning and engineering design skills using the system design methodology. Emphasis is placed on design philosophies, problem definition, project planning, budgeting, written and oral communication skills, working with others in a team arrangement, development of specifications and effective utilization of available resources. The team project will be presented to guests, faculty and students at a prearranged seminar.

Instructor: Mr. Russ Tatro Office: Riverside 5030
email: rtatro@csus.edu Website: www.csus.edu/indiv/t/tatror
Office Phone: 278-4878 Cell: (530) 386-3700
Office Hours: See my faculty website for current office hours.

Fall 2020 Grading

| | |
|--|------|
| Attendance, Team Activity Reports, Team Work , Team Member Evaluations | 30% |
| 1 - Problem Statement - Individual | 4% |
| 1 - Problem Statement - Team | 6% |
| 2 - Design Idea Contract – Project Proposal with specified feature set | 10% |
| 3 - Work Breakdown Structure – August 2020 to May 2020 | 10% |
| 4 - Project Timeline – August 2020 to May 2020 | 10% |
| 5 – Risk Assessment Report | 10% |
| 6 – Project Technical Review | 15% |
| 7 - Laboratory Prototype Presentation | 5% |
| Total | 100% |

Attendance: Attendance is required for all lecture and lab periods. Project teams will meet at scheduled appointments during the lab period to review weekly project status and submit weekly status reports. Prior permission in writing is required for an excused absence.

Failure to Progress: In the instructor’s opinion and sole discretion, if the design team has failed to show reasonable progress, the team and/or individual team members may be dropped from the course and required to repeat the course at the next scheduled offering. It is vital that design teams show steady work and project progression at all times. You are cautioned to allow time in your schedule for a minimum of 15 hours per week of work on this course alone. Spending time unproductively is not efficient nor an extenuating circumstance for continuation in the course.

Grading Policy: Grades will be based on your working project demonstration, project documentation, meeting scheduled milestones, project management plans, peer reviews, plus a qualitative evaluation of your end of term presentation. The class average is usually in the B+ range. Grades may be curved at the instructor’s discretion with typical (meaning somewhere around this region) grades ranges are:

“A” 94.5 and above “A-” 89.5 to 94.49
“B+” 87.5 to 89.49 “B” 83.5 to 87.49 “B-” 79.5 to 83.49
“C+” 77.5 to 79.49 “C” 73.5 to 77.49 “C-” 69.5 to 73.49
“D+” 67.5 to 69.49 “D” 63.5 to 67.49 “D-” 59.5 to 63.49
F Below 59.5

Carefully review the course material. You will be held to the requirements as detailed in the many course documents.

RVR 3001 Design Laboratory room rules: THIS IS NOT AN OPEN LAB! Each senior design team will be assigned a work table for your use during the length of your project. Keep your table presentable and “working clean” at all times. No food or beverage is allowed near the computers or work tables. Please do not move test equipment from other tables without permission and prior coordination.

Entry into the laboratory is by a University “FOB” obtained completing the “key exchange” paperwork and your instructor’s signature. Students not engaged in senior design must be escorted at all times and if you allow them in the lab – when you leave – they leave.

CpE 190/EEE 193A - Section 1 – Lecture – Fall 2020

| Week | Date | Topic to be discussed (dates are subject to change) | Lecture notes on the Hive |
|------|-------|--|--|
| 1 | 08-31 | Course Overview Periodic Documentation Problem Statement Elevator Pitch | <i>SD-Week-1-Societal-Problem</i> |
| 2 | 09-07 | Labor Day Holiday – Campus Closed | |
| 3 | 09-14 | Design idea contract and requirements specifications | <i>SD-Week-3-Design-Idea</i> |
| 4 | 09-21 | Effective Teams and team work | <i>SD-Week-4-Teamwork</i> |
| 5 | 09-28 | Communication Skills | <i>SD-Week-5-Written-Communication</i> |
| 6 | 10-05 | Communication Skills | <i>SD-Week-6-Oral-communication</i> |
| 7 | 10-12 | Work Breakdown Structure | <i>SD-Week-7-WBS</i> |
| 8 | 10-19 | Project Timeline: Gant chart | <i>SD-Week-8-Timeline</i> |
| 9 | 10-26 | Critical Paths: PERT Diagram | <i>SD-Week-9-Critical-Paths</i> |
| 10 | 11-02 | Risk Assessment | <i>SD-Week-10-Risk-Assessment</i> |
| 11 | 11-09 | Introduction to reliability engineering Documenting your project | <i>SD-Week-11-Reliability</i> |
| 12 | 11-16 | Technical Review | |
| 13 | 11-23 | System maintenance | <i>SD-Week-13-Maintenance</i> |
| 14 | 11-30 | Preparing for Spring | <i>SD-Week-14-Preparing-for-Spring</i> |
| 15 | 12-07 | | No Lecture |
| | 12-11 | Senior Design Showcase | Friday 9:30 am to Noon |
| 16 | | Finals Week – No lecture and no lab | |

CpE 190/EEE 193A Lab - Fall 2020

| Week | Date | Activity | Assignments due on this date |
|------|-------|--|--|
| 1 | 08-31 | Team Formation | Team Member Confirmation First Team Leader Starts |
| 2 | 09-07 | Labor Day Holiday | No lab – campus closed |
| 3 | 09-14 | Team-Instructor Meetings | 1-Problem Statement Report - Individual |
| 4 | 09-21 | Team-Instructor Meetings | Selection of Team’s Societal Problem First Team Activity Report |
| 5 | 09-28 | 1-Problem Statement Presentation (with Elevator Pitch) | 1-Problem Statement Report – Team Team Activity Report |
| 6 | 10-05 | Team-Instructor Meetings | 2-Design Idea Report Team Activity Report |
| 7 | 10-12 | Team-Instructor Meetings | 2-Design Idea “Contract” Approval Due Team Member Evaluations Due Team Activity Report |
| 8 | 10-19 | Team-Instructor Meetings | Team Activity Report |
| 9 | 10-26 | Team-Instructor Meetings | 3-Work Breakdown Structure Report First Outgoing Team Leader Report Second team leader takes over 10/27/2020 Team Activity Report |
| 10 | 11-02 | Team-Instructor Meetings | 4-Project Timeline |
| 11 | 11-09 | Team-Instructor Meetings | 5-Risk Assessment Report Team Activity Report |
| 12 | 11-16 | Team-Instructor Meetings | Team Activity Report |
| 13 | 11-23 | Team-Instructor Meetings | Team Activity Report |
| 14 | 11-30 | Team-Instructor Meetings | Team Member Evaluations Due Second Outgoing Team leader report Last Team Activity report for Fall semester |
| 15 | 12-07 | 6 – Project Technical Review | 6 – Project Technical Review Presentation |
| | 12-11 | 7 - Laboratory Prototype Presentation | Public presentations will be on Friday 12/11 University Union, 9:30 am to noon. Third Team leader takes over 12/11/2020 at noon. |
| 16 | | Exam week | No lab meeting |

All written assignments are due by the start of the Monday laboratory session.

Grade Distribution for Team Activity reports, Team Member Evaluations, and Team Work

| Week | Date | Points | Assignments due on this date |
|------|-------|------------|---|
| 1 | 08-31 | | |
| 2 | 09-07 | | |
| 3 | 09-14 | | |
| 4 | 09-21 | 4 | Team Activity Report |
| 5 | 09-28 | 4 | Team Activity Report |
| 6 | 10-05 | 4 | Team Activity Report |
| 7 | 10-12 | 30 | Team Activity Report, Team Work, Team member evaluations |
| 8 | 10-19 | 4 | Team Activity Report |
| 9 | 10-26 | 6 | Outgoing Team Leader Report, Team Activity Report |
| 10 | 11-02 | 4 | Team Activity Report |
| 11 | 11-09 | 4 | Team Activity Report |
| 12 | 11-16 | 4 | Team Activity Report |
| 13 | 11-23 | 6 | Outgoing Team Leader Report, Team Activity Report |
| 14 | 11-30 | 30 | Team work, Team member Evaluations, Outgoing Team Leader Report, Team Activity Report |
| 15 | 12-07 | | |
| | Total | 100 points | 100 out of 100 points = 30% of course grade |

ECS Hive

The course material will be posted to the course ECS Hive Site.

ECS Hive Course sign-up

1. Obtain valid ECS ID and password (if you don't already have one).
2. Your ECS email will be the first point of contact method for the course. So use an email that you monitor frequently.
3. Log onto ECS Hive: <https://ecshive.ecs.csus.edu/portal/>
4. Go to "My Workspace"
5. Go to "Membership"
6. Click on "Joinable Sites"
7. Join the "CPE190/EE193A 2020F - Tatro" course site.

The lab instructor will help the team join their team specific site.