



O²P – Open Option Projects

ECE395-B / ECE495-B, Section 1 Fall 2019

Class requirements:

- **Attend required class meetings:**
 - o August 28th – OOP requirements and project sign-up
 - o September 4th – confirmation of projects and workshop sign-up
 - o October 23rd – mid-semester meeting (Sec.1 and Sec.2)
- **Attend 2-3 workshops per semester** (one Arduino/RaspberryPi (?) and one to two for B111 Lab Equipment)
- **Meet with EiR mentor** at least **two times** during the course of semester
- **Maintain Project Notebook** (can re-use in the future)
- **Submit required documents:**
 - o September 6th by 12, midnight: Project Proposal (email, 2 pages)
 - o October 24th by 12, midnight: Mid-project Report (email, 2-4 pages)
 - o December 12th (Thursday) by 12, midnight: Project report (emailed)
- **Participate in Project demos:** December 11^h, 5:30 – 7:30 pm in the BC Infill

Project notebook:

Every student should purchase a notebook and use it while working on the project to take notes, tape important papers inside, write during meetings and similar. Notebook can be used over multiple semesters, especially if a student continues work on the same project.

EiR mentors:

Each team will propose an EiR mentor that they believe would be the best to guide them over the course of their project work (see explanation for the project proposal), and they will contact EiR as soon as they submit proposal.

Each team will be required to meet with EiR mentor at least two times per semester: **once before 9/20**, and **once in October**. Meeting and evaluation form will be emailed to the students. Scans of two meeting forms should be included in the final report (see final report requirements).

Due documents:

All due documents are team deliverables and should be emailed to olivera@colostate.edu in pdf format.

Formatting: font size 10 or 11, Times New Roman or similar, single spacing, 1" margins on all sides, justified (straight edges on both left and right sides).

Please name files as requested below.

is number of your project – this info will be shared with everyone by the end of next week, as some people are still looking for projects.

Project Proposal: [OOP# proposal.pdf]

First page (cover page) should contain the following info: project title, team members' names, any mentors/collaborators/helpers that are not in OOP, and up to a 200-word project summary. On the second page, include source of your project idea, rough explanation of what and how you are going to do it and project plan table showing estimated phases and delivery/finish date. Team may divide deliverables into different levels: we hope to accomplish... if time allows we will attempt... as the final goal we hope to design...

If project idea is such that team envisions working on it over a few semesters, state it in the summary. Summary is not binding; project scope may be changed during the semester.

At the bottom of the second page add a statement “We believe that **** EiR volunteer will be an appropriate mentor for our project”. The list of volunteers is available on the web <https://www.csueir.com/> and displayed in B111 Lab window.

File with EIR volunteer info will be emailed to students before proposals are due.

Mid-Project Report: [OOP# midreport.pdf]

Mid-project report should be 3-4 pages long.

First page (cover page) should be re-used from the project proposal document. If needed, changes may be made to the project summary from previous submission.

Starting on the second page, team should provide update on any research that has been performed, any options that have been considered and design choices made; software that will be used should be listed. Team should explain if any components have been ordered, and what has arrived. This document should include some preliminary graphs, charts or sketches of the design. Updated project plan table should be included.

A reader of this document should be able to tell exactly what and how much has been done so far.

Course Assistant will be emailing teams to meet a week before mid-semester meetings to discuss progress.

Final Report: [OOP# report.pdf]

Preliminary version of the written report should be displayed on the table during demos on 12/11.

Final report should be 4-8 pages long.

First page (cover page) should be re-used from the proposal and/or mid-report. If needed, changes may be made to the project summary from previous submission, to reflect final project description. Front cover should be nice and “catchy” – it may include a photo of the final design.

Report should include project background (reasons for choosing the project, source of the project idea and changes made), explanation of performed testing and results, and conclusion. It should include any relevant formulas, graphs, charts, measurements or simulation results and photographs (this is an engineering document - make it “as engineering as it can be”).

A team should state what was learned in the process and what they would do differently, if they were to start “all over again”.

If any team member has previously worked on the project, include brief overview of what was done in the past. If anyone is planning to continue working on the project in the future, provide plans for future work.

Team should take pictures as they work on the project and include them in the report.

A report should be clear and concise for general engineering audience.

All tables, pictures, graphs, charts and/or diagrams should be numbered and captions to figures should be used.

Literature used, references and/or bibliography should be listed at the end of the report. Students should learn the difference between reference and bibliography and use IEEE citation reference (formatting style that is standard for all engineering papers).

Section titles should be typed using slightly larger font.

Your report must be clear and concise for general engineering audience.

Required Appendix A: Literature and Relevant Academic Courses – This should be a one to two pages appendix (which is not traditional for engineering papers, but is needed to justify your participation in OOP). In this appendix, team should state how were listed literature and bibliography used (and to what extent were they useful) and have they used any knowledge from any of the academic courses (e.g. we have used *** *Law* that we have learned in *ECE****; we have used *** *transform* that we have learned in *ECE****, we have used *** *test equipment* which was used in *ECE**** ; the knowledge of *** that we have *learned/studied/discussed in PHYS**** has helped us a lot with *** *part of our project*, or similar)

Required Appendix B: Two meeting forms acknowledging meeting with EIRs must be included at the end of the report. Teams missing this form will automatically receive U=unsatisfactory grade for OOP. Although we encourage you to meet with EIRs as many times as you wish during the semester, please include only two forms.

B111 - ECE Student Projects Lab

RULES

B111 – ECE Student Projects Lab has (from front to back)

- EIR area (with limited office supplies)
- Seating set
- Kitchen area (microwave, coffee maker, two fridges, water heater and other electrical conveniences); last year students have started the take-one-leave-one donations food supply
- 3+3 lab benches with desktop computers and full test equipment setup (similar to the old C105/C107)
- Free area, stocked with circuit components, switches, sensors, stripped wire and internal power supplies - all donated and available for students to take/use for their projects (please use common sense when taking and always ask if not sure)
- Creation area with five 3D printers, 2 CNC machines, reflow oven, soldering stations with IR preheaters, heat guns, tabletop drill and tool chest stocked with tools (please return where found!), 3D scanner, trinoculars, coil winder; and 150 W oxygen-assist laser cutter...
- Four cubicles (meeting rooms)
- Multiple drawers and shelf space for teams to store their projects. There is no option to lock your supplies.

Space in the lab is very limited, since we expect almost 100 senior design and close to 50 OOP and VIP students working on more than 50 projects to claim their space in this lab. Therefore we kindly ask that students work in supervisor's lab, if at all possible, especially projects originated/proposed by CSU professors.

1. Respect your and other projects – **keep the door closed at all times!**
2. **24/7 access** has been granted to
 - ECE senior design students
 - BME, CBE and ME students working on ECE senior design projects
 - Independent Study students working on ECE senior design projects, regardless of their major
 - OOP students
3. B111 should be used for project-related work. Work related to other courses is acceptable, as long as there is enough space for those doing project work
4. Responsible consumption of food and beverage is allowed, as long as food and beverage containers
 - Are not kept on **any** benches with computers and test equipment
 - Are not kept in the Creation Lab area (with prototyping equipment and tools) or Soldering Area
 - Are disposed in the appropriate containers, and not left on benches. Please throw “smelly food” containers outside.

Consider this rule as a **huge** favor and privilege that may be **terminated** at any time if students do not follow rules.

Email questions, comments and suggestions to Olivera or ECE SrDesLab team!
eceB111Lab@gmail.com