

University of Massachusetts Amherst
Department of Electrical and Computer Engineering

SDP04

ECE 416 - Senior Design Project II – Spring 2004 - 2 cr

Description:

Lab. Continuation of ECE 415. Small electronic and/or software systems built, refined, tested and demonstrated. Final prototype shown to meet initial specifications agreed upon in the fall semester. Final design review by SDP04 Review Board. Credits: 2
Prerequisite: ECE 415.

Objectives:

After successfully completing this course, a student should be able to:

1. Prototype an electronic and/or software system to meet given specifications.
2. Integrate knowledge from across the core CSE or EE curriculum.
3. Take a systems approach to problem solving.
4. Work productively in a team environment.
5. Effectively communicate technical ideas and concepts.

SDP Coordinators:

C. V. Hollot, Professor and Associate Department Head
215 Marcus Hall, hollot@ecs.umass.edu
T. Baird Soules, Lecturer and Undergraduate Program Director
210 Marcus Hall, soules@ecs.umass.edu

SDP Technician:

Francis Caron, 9B Marcus Hall, fkcaron@ecs.umass.edu,
Hours: 7:30 A.M. - 3:30 P.M., Mon - Fri

Project Management:

In order to facilitate team organization and communication each team will continue to have one member who is designated as the project manager. The faculty advisor may or may not assign the role to the same person that was chosen in the past semester.

Responsibilities of the project manager include:

- function as liaison between the team and the advisor
- insuring that deadlines are met
- insuring that the team is prepared for the weekly advisor meetings
- responsible for assembling weekly team report
- responsible for logistics and confirmations associated with weekly team meetings, weekly advisor meetings, the PDR and the MDR. This includes room and presentation equipment reservations.

It should be noted that other team members will have areas of responsibility defined as the project moves forward. The role of project manager is clearly defined early in the process due to the general logistical nature of the role. The project manager offers general support of the design effort while the other roles will be tailored to project-specific needs.

Organization:

All-course meetings: Course meetings will be held in the Friday 3.35-4.25 time slot in Hasbrouck 134. This will not be a regular meeting time, but will be used on an as-needed basis in addition to three scheduled meetings. Groups will be contacted by email regarding meetings and meeting locations.

Weekly Team Meetings:

Weekly team meetings are for the team members to meet with each other. This can be either before or after the weekly advisor meetings, but meeting the day before the advisor meeting is encouraged in order to be prepared to make best use of the time with the advisor. It is the project manager's responsibility to set up these meetings.

Weekly Advisor Meetings:

Each project team will have a weekly team meeting with their project advisor. The purpose of each meeting is to have each team member report on progress that has been made, barriers that have been identified and clarification of short- and long-term goals. It is the project manager's responsibility to set up these meetings with the project advisor.

Schedule, Spring 2004:

Besides the weekly team meetings and advisor meetings, the schedule includes the following milestones:

1. **Fri 13 February 2004:** Initial all-course meeting.
2. **Fri 16 April 2004:** All-course meeting to discuss how to prepare for the Comprehensive Design Review (CDR).
3. **Wed 21 April 2004 – Fri 23 April 2004:** Comprehensive Design Review (CDR): Presented to SDP04 Review Board and Project Advisor, usually at the team's bench in the SDP Lab. Includes poster. Teams describe and demonstrate projects. Board suggests grade to advisor.
4. **Fri 30 April 2004:** All-course meeting to discuss how to prepare for the SDP04 Demo Day.
5. **Wed 05 May 2004:** SDP04 Public Demo Day in the Guinness Engineering Student Center.
6. **Thu 13 May 2004:** Final report (delivered as a single PDF (Acrobat) file on a CD-R) to the Academic Programs Office, 210 Marcus Hall before 4:30 PM.

Grading:

Team members will be graded individually by their SDP project advisors. After the Mid-course Design Review, the Design Review Board will recommend semester grades for each team member based on the report and oral presentation. The project advisors will take this feedback into account when assigning the semester grade.

The team members may receive different letter grades. Your performance on your portion of the project, contributions towards progress reports and your participation level in the weekly meetings will impact your final grade.

Final Report Format:

Details regarding the format of the final report will be forthcoming. Each report must be submitted as a single PDF (Acrobat) file burned onto a clearly labeled CD-R.

Academic Dishonesty:

Any form of academic dishonesty (see definition in the Undergraduate Rights and Responsibilities booklet) will not be tolerated. Academic dishonesty will lead to a failure in the assignment in question, failure in the course, and/or further disciplinary action at the university level. Cases of academic dishonesty will be reported to the Department Head, the Asst. Dean and the University Academic Honesty Board.

Relationship to Program Outcomes:

The ECE undergraduate program as a whole has ten educational program outcomes. This course contributes towards meeting those outcomes. The table below shows how the five course objectives above relate to the program outcomes.

PROGRAM OUTCOMES	COURSE OBJECTIVES				
	1	2	3	4	5
1. Well grounded in the fundamental concepts of math, physics, chemistry, computer science, and engineering science	Y	Y	Y	N	N
2. Able to identify, formulate and solve problems in ECE	Y	Y	Y	N	N
3. Able to design and conduct experiments, and to analyze and interpret measured data	Y	Y	Y	N	N
4. Capable of designing analog and digital systems, components, and processes to meet desired needs	Y	Y	Y	N	N
5. Proficient in using modern engineering techniques and computing tools for effective engineering practice	Y	Y	Y	N	N
6. Experienced in engineering teamwork, and in solving technically diverse and multidisciplinary problems	Y	Y	Y	Y	Y
7. Able to communicate effectively orally and in writing, and through symbolic and graphical expression	Y	N	Y	N	Y
8. Aware of professional and ethical responsibilities as engineers	Y	N	N	Y	Y
9. Aware of the impact of ECE technology and decisions on society	Y	Y	Y	N	N
10. Motivated about the importance of lifelong learning, scholarship and professional development	N	N	N	N	N

Professional component: Credits of engineering science: 0; Credits of engineering design: 2
 Prepared by: T. Baird Soules and C. V. Hollot Date: Jan 2004