

EECS 541 Computer Systems Design Laboratory I

General Information – Fall 2017

Class Information: As below:

Lectures:

Room: Learned 3003, Time: MW 11:00AM – 11:50AM

Lab:

Room: Eaton 3003, Time: W 8:00AM – 9:50AM

Prerequisites: EECS 443 (Digital Systems Design) and EECS 448 (Software Engineering I)

Class Instructor: Prasad Kulkarni

Office: 2030 Eaton (Ph: 785-864-8819)

Office Hours: MF 9:30AM – 10:30AM or by appointment

Email: prasatk@ku.edu

Other Location: 136 Nichols (Ph: 785-864-7322)

GTA / Lab Instructor: Elise McElhiney

Office: TBD

Office Hours: Thursdays 9:30AM – 11:30AM

Email: e908m429@ku.edu

Class Homepage: The class home page is at <http://www.ittc.ku.edu/~kulkarni/teaching/eecs541/>.

The page will contain a variety of information, which will include the syllabus, slides, assignments, and announcements.

Catalog Description: A two semester lecture/laboratory course involving the specification, design, implementation, analysis, and documentation of a significant hardware and software computer system. Laboratory work involves software, hardware, and hardware/software trade-offs. Project requirements include consideration of ethics, economics, manufacturing, safety, and health aspects of product development. Can be taken only during the senior year.

Learning Objectives: This is the first course in a two semester class sequence. It is designed to teach students the steps in a systematic engineering design process, to provide design experience through a capstone design project, and to build teaming, organizational, writing and oral communication skills. At the end of this course, students are expected to:

- Understand and be able to explain the process of engineering design.
- Design and develop a significant computer-based (hardware/software) system to solve a well-defined problem.
- Design a system within a set of realistic constraints including: economic; environmental; sustainability; manufacturability; ethical; health and safety; social; and political.
- Be able to analyze and understand the tradeoffs in different solutions to an engineering problem.
- Learn how to function effectively on a multi-person team.
- Understand the need for professional and ethical responsibility, and demonstrate knowledge of professional ethical codes.
- Develop useful written documents and effective oral presentations.

Assessment Metrics: During this course, learning will be assessed on the ability of the student to:

- Motivate the need for solving the problem proposed. Analyze alternative solutions and trade-offs. Prepare preliminary design plans.
- Prepare a project plan that includes a description of the problem and proposed solution, schedule with major milestones, a budget, a validation test plan, and a list of critical aspects.
- Discuss a computer engineer's professional and ethical responsibilities.
- Demonstrate effective written and oral communication skills.

Grading: The class will be graded according to the percentages listed below.

Lab Projects (about 3/4)	– 20%
Assignments (about 3)	– 15%
Project Design Report (10/14)	– 15%
Final Project Report (12/16) and Presentation (12/05)	– 40%
Team meeting minutes (about 5)	– 10%

The course grade thresholds (that is, the numerical grade required to get a particular letter grade) will be set by the instructor to reflect the relative performance of the students. Fractional grading will not be used for this class. Class attendance is expected.

Further details of the project grading procedure will be announced in class or via e-mail as required.

Note: failure to complete the “Project” portions of the course will result in a grade of ‘F’ for the course. Assignments and reports can be submitted one class period late at a penalty of 10% of the grade. Assignments and reports that are more than once class period late will not be accepted, unless prior arrangements are made and only under extraordinary circumstances.

An appeal on grades for individual assignments must be within 14 days of the date the assignment is returned.

Please advise the instructor of this class at your earliest convenience (minimum of five working days) if you have a disability that will require a reasonable accommodation for any of the activities in the course schedule.