University of Victoria Engineering

Faculty of Engineering

COURSE OUTLINE

ECE 399 – Design Project 1

Term – Fall 2018 (201809)

Instructor

Dr. Alexandra Branzan Albu
Phone: 8681
E-mail: aalbu@uvic.ca

Office Hours

Days: Mondays
Time: 13:30-15:30
Location: EOW 307

Course Objectives

- The ECE 399 Design Project I course provides an opportunity for students to study engineering design on real world projects, in teams of 4 to 5 persons. Projects are proposed by industrial sponsors, and cover a variety of electrical and computer engineering design topics. The list of projects will be made available on the course web site. Each team will select a project from the list, articulate the engineering requirements, perform a technical literature review of related technologies, and a feasibility study of possible design solutions. Student-proposed projects need to be submitted for the course instructor's approval; they also need to be specify an academic or industrial sponsor.
- Students are expected to learn the project design process, including setting up milestones, background preparation, application of previously acquired knowledge to the project development, exploration of alternative approaches and their evaluation.
- Students will gain theoretical and contextual knowledge relevant to the design process from lectures. A number of lectures will involve guest speakers, who will present a diversity of viewpoints on engineering design.

Learning Outcomes

- Understand and apply the main principles of the engineering design process
- Formulate a problem definition, design goals, and design objectives for a design activity;
- Generate and evaluate conceptual design ideas;
- Apply mathematical methods for the analysis of an engineering design;
- Participate effectively in teamwork during the entire engineering design process;
- Master the basics of technical project management;
- Develop and refine oral and written communication skills;
- Understand the ethical and social implications of engineering work;

For success, each student should:

- Attend all lectures and tutorials;
- Take notes during lectures, as the content of the lectures will be evaluated through quizzes;
- Attend all student team design meetings and share the work;
- Record their individual and team work in the electronic log book.
- Actively participate in preparation and delivery of Oral Presentation and Final Reports;
- Attend all student pitches and presentations scheduled during the same tutorial slot.

Syllabus

- The design process and design methodologies
- Requirements analysis
- System Design: the synthesis/analysis cycle
- Project management

- Principles of ethical design
- Engineering design for entrepreneurs

A-Section(s): A01 / CRN 11004	B01	Thu	11:30-12:20	TA - TBD
Lecture	B02	Thu	11:30-12:20	
Days: Fridays	B03	Fri	13:30-14:20	
Time: 12:30-13:20	B04	Fri	10:30-11:20	
Location: ECS 125	B05	Fri	10:30-11:20	

Optional Text

Title: Design for Electrical and Computer Engineers
Author: J. Eric Salt and R. Rothery
Publisher: John Wiley & Sons, Inc.
Year: 2002

References: White papers on engineering design, and lecture slides will be posted on the course web site hosted by Course Spaces.

Assessment:

Four in-class quizzes (unannounced)	16%	
Lecture and Tutorials attendance	4%	
Requirements specification document	10%	Date: TBA
Technical Literature Review – oral presentation	20%	Date: TBA
Feasibility study – oral presentation	20%	Date: TBA
Electronic log book	5%	Date: TBA
Peer assessment	5%	Date: TBA
Final report	20%	Date: TBA

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

https://web.uvic.ca/calendar2018-09/undergrad/info/regulations/grading.html

Note to students: Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Assistant to set up an appointment.

Accommodation of Religious Observance:
https://web.uvic.ca/calendar2018-09/undergrad/info/regulations/religious-observanc.html

Policy on Inclusivity and Diversity:
https://web.uvic.ca/calendar2018-09/general/policies.html

Standards of Professional Behaviour: You are advised to read the Faculty of Engineering document Standards for Professional Behaviour, which contains important information regarding conduct in courses, labs, and in the general use of facilities.
https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the entry in the current Undergraduate Calendar for the UVic policy on academic integrity.
https://web.uvic.ca/calendar2018-09/undergrad/info/regulations/academic-integrity.html

Equality: This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to contact the Resource Centre for Students with a Disability located in the Campus Services Building.

The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

Course Lecture Notes: Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.