UVic Department of Electrical and Computer Engineering

COURSE OUTLINE
ENGR 120 – Design and Communication II
Spring 2014

Instructor:

Michael McGuire
Phone (250) 721-8684
E-mail:mmcguire@ece.uvic.ca

Office Hours:

Days: Wednesday
Time: 13:00-15:00
Location: EOW 431

ENGR 120:

Lectures:

A-Section(s):	Location	Days	Time
Monika Cwiartka	(cwiartka@uvic.ca)		
A01 / CRN 21280	CLE A102	MR	10:00-11:20
A10 / CRN 23736	CLE A012	MR	13:00-14:20
Suzan Last	(sulast@uvic.ca)		
A04 / CRN 21283	CLE A015	MR	10:00-11:20
A08 / CRN 21287	CLE A015	WF	9:00-10:20
A09 / CRN 23735	CLE A015	MR	13:00-14:20
Brock MacLeod	(brock1@uvic.ca)		
A03 / CRN 21282	BEC 170	MR	10:00-11:20
A07 / CRN 21286	CLE A102	WF	9:00-10:20
Monika Rydygier Smith	(monikasm@uvic.ca)		
A02 / CRN 21281	CLE A012	MR	10-11:20
Valerie Warder	(vwarder@uvic.ca)		
A06 / CRN 21285	BEC 170	WF	9:00-10:20
A11 / CRN 23737	BEC 170	MR	13:00-14:20
Samuel Wong	(samuelw@uvic.ca)		
A05 / CRN 21284	CLE A012	WF	9:00-10:20

Labs: **Location: ELW A359**

B-Section(s)	Days	Time
B01 / CRN 21288	M	14:30-16:20
B02 / CRN 21289	M	17:00-18:50
B03 / CRN 21290	T	14:30-16:20
B04 / CRN 21291	T	17:00-18:50
B05 / CRN 21292	W	14:30-16:20
B06 / CRN 21293	W	17:00-18:50
B07 / CRN 21294	R	14:30-16:20
B08 / CRN 21295	R	17:00-18:50
B09 / CRN 21296	F	14:30-16:20
B10 / CRN 21297	F	17:00-18:50
B11 / CRN 21298	W	12:30-14:20
B12 / CRN 21299	F	12:30-14-20
B13 / CRN 23762	M	19:00-20:50
B14 / CRN 23763	T	19:00-20:50
B15 / CRN 23766	W	19:00-20:50
B16 / CRN 23768	R	19:00-20:50
B17 / CRN 23770	T	11:30-13:20

Design Lecture for all sections of ENGR120:
Days:Tuesday
Time:8:30 AM – 9:20
Location:UVC B144 (University Centre Auditorium)

Required Text:

Title: The Essentials of Technical Communication, 2nd edition
Author: E. Tebeaux & S. Dragga
Publisher: Oxford UP
Year: 2012

Course Web Site:

Moodle Site for Design Laboratory and Project:
http://moodle.uvic.ca/course/view.php?id=26926
There will be a separate Moodle website for each communications section.

Costs (prices are approximate)

Software	$78.99 CAD from VEX (http://www.vexrobotics.com/robotc-cortex-pic.html) $49 USD (365 day license) (http://www.robotc.net/purchase/vexrobotics/)
Deposit for VEX kits:	$80/student ($30 fee +$50 refundable)

Design Laboratory Information:

The design laboratory will be start during the week of January 13th. During the lab of that week, students will be assigned to a group. You will be working with this group for the full term. Please bring your VEX deposit to your first laboratory session..

Assessment:

Grade Distribution

Engineering Design grade	40%
Technical Communication grade	60%
Total	100%

You must pass both the communication and the design parts of the course. If you fail either part, you must retake the entire course. You must attend all Design Laboratory sessions and complete all Technical Writing Assignments to the satisfaction of the instructor in order to pass the course.

Communication Assignments

Information regarding communications assignments will be provided by your communication instructor and on the Moodle site for your communication section.

Engineering Design Grade

Design Assignments/Labs*	40%
Design Quizzes†	10%
Design Final Project:	50%
Total	100%

* All labs and assignments will be weighted equally.
† The design quiz will be delivered in the last communications classes.

NOTE: You must attend all Design Laboratory sessions to pass the course.

The final grade obtained from the above marking scheme will be based on the following percentage-to-grade point conversion:

Passing Grades	Grade Point Value	Percentage for Instructor Use Only	
A+ A A-	9 8 7	90 – 100 85 – 89 80 – 84	
B+ B B-	6 5 4	77 – 79 73 – 76 70 – 72	
C+ C	3 2	65 – 69 60 – 64	
D	1	50 – 59	
Failing Grades	**Grade Point**	**Percentage for Instructor Use**	**Description**

	Value	Only	
E	0	35 - 49	Fail, conditional supplemental exam. (For undergraduate courses only)
F	0	0 – 49	Fail, no supplemental.
N	0	0 – 49	Did not write examination, Lab or otherwise complete course requirements by the end of term or session; no supplemental exam.

Course Description

ENGR 120 is a 2.5 unit course, in which instruction and activities in technical writing and engineering design are presented in an integrated manner. You will be introduced to fundamental principles and practical aspects of biomedical, civil, computer, electrical, mechanical, and software engineering and will apply this knowledge in developing and implementing your own designs. In parallel, a practical introduction will be provided to the essential skills needed to write and present information as a technical professional. The course is an opportunity to develop your skills as a writer, practice the techniques and strategies used by technical writers, and work with other students to prepare a complete formal report following the model of the Faculty of Engineering co-op work term report. Major written assignments will be based primarily on the design work that you do in this course.

The communication grade will count for 60% of the course grade and engineering design 40%. The contact hours for this course are allocated as follows:

Activity	Hrs / Wk	Section Size
Communication lectures	3	30
Plenary lecture	1	All students
Engineering design laboratory	2	≤32

Communication Lectures
Communications classes combine lecture, discussion, and team meetings in the computer labs to enable you to learn and practice the technical writing skills covered in the course.

Plenary Lectures
Plenary lectures provide technical information you will need to undertake Design Laboratory work, as well as discussion of topics on other aspects of the engineering profession. Attendance is mandatory since materials in the plenary lectures will form the basis for lecture and lab quizzes and questions.

Engineering Design Laboratory
You will work in teams of 3-4 to complete a number of design exercises and one major design project. Parts of the design exercises and the entire design project will be completed using the VEX robotic kits (http://www.vexrobotics.com/vex).

Assignments
Detailed descriptions of assignments will be posted on course Moodle sites and discussed in Communication Seminars, Plenary Lectures, and Design Laboratories. All assignments must be completed to the satisfaction of your instructors in order to pass the course.

Course Objectives and Learning Outcomes

Engineering Design
Students exiting ENGR 120 will be able to:

- follow a standard structured process to design a system comprised of computer, electrical, mechanical, and software subsystems;
- apply discipline-specific technical knowledge in the design process and understand the relevance of that knowledge to the disciplines in professional practice;

- demonstrate teamwork skills in the successful accomplishment of an engineering design project;
- identify business, social, environmental and regulatory considerations relevant to the execution of an engineering design project;
- apply selected tools for effective management of time and resources in the context of an engineering design project.

Technical Communication

- apply a problem-solving approach to a communication task, identifying the purpose, audience, and content, and developing an effective production plan;
- apply research skills that include developing a research plan, gathering information from primary and secondary sources, incorporating research into a document according to established conventions, and documenting your sources according to a required style (IEEE style);
- effectively plan, draft, revise, and edit the types of documents commonly required of technical professionals, including routine correspondence, proposals, reports, presentations, and other forms of informational writing;
- edit your own and others' writing so that it is clear, concise, readable, and complete, and conforms to the conventions of standard written English;
- work effectively as part of a team, applying an understanding of team dynamics, effective communication in groups, conflict management, and shared leadership;
- design documents for readability, using headings and visuals effectively, and choosing a form and design appropriate to the purpose and audience;
- prepare and deliver a professional presentation using appropriate visual aids.

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 ECE Chair by email or the ECE Chair's secretary to set up an appointment.

Accommodation of Religious Observance
See http://web.uvic.ca/calendar2013/GI/GUPo.html

Policy on Inclusivity and Diversity
See http://web.uvic.ca/calendar2013/GI/GUPo.html

Standards of Professional Behaviour

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour at http://www.uvic.ca/engineering/current/faculty/index.php#section0-13 which contains important information regarding conduct in courses, labs, and in the general use of facilities.

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult

http://web.uvic.ca/calendar2013/FACS/UnIn/UARe/PoAcI.html for the UVic policy on academic integrity.

Plagiarism detection software may be used to aid the instructor and/or TA's in the review and grading of some or all of the work you submit.