

ENGR 121 : Design II

Term - **SPRING 2015** (201501)

Instructor

Dr. Michael McGuire
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Office Hours

Days: Wednesday
Time: 2:00-3:00 PM
Location: EOW 431

Lectures

A-Section(s): A01 / CRN 21290
Days: Tuesdays
Time: 9:30-10:20
Location: ELL 168

Labs

B-Section(s):	Days:	Time(s):
B01	M	14:30-16:20
B02	M	16:30-18:20
B03	T	11:30-13:20
B04	T	14:30-16:20
B05	T	16:30-18:20
B06	W	12:30-14:20
B07	W	14:30-16:20
B08	W	16:30-18:20
B09	R	14:30-16:20
B10	R	16:30-18:20
B11	F	12:30-14:20
B12	F	14:30-16:20
B13	F	16:30-18:20
B14	M	18:30-20:20
B15	T	18:30-20:20
B16	W	18:30-20:20
B17	R	18:30-20:20

Location: ELW B336

Course Web Site:

CourseSpaces page for design laboratory and project: <http://coursespaces.uvic.ca/my>
There will be a separate website for each communications section.

Costs (prices are approximate)

Software	\$79 USD from RobotC site (http://www.robotc.net/purchase/vexrobotics/) \$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 12th. 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:

Engineering Design Grade Breakdown

Design Assignments/Labs*	40%
Lab Quizzes	10%
<u>Design Final Project:</u>	<u>50%</u>
Total	100%

* All labs and assignments will be weighted equally.

Course Description

ENGR 121 is a 1.0 unit course which presents the fundamentals of engineering design. 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.

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 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.

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

**Since ENGR121 does not have a final exam, an E grade will never be assigned for this course.*

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 ecneasst@uvic.ca to set up an appointment.

Accommodation of Religious Observance

See <http://web.uvic.ca/calendar2014/GI/GUPo.html>

Policy on Inclusivity and Diversity

See <http://web.uvic.ca/calendar2014/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/assets/docs/professional-behaviour.pdf> 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/calendar2014/FACS/UnIn/UARe/PoAcl.html> for the UVic policy on academic integrity.