

CAMOSUN COLLEGE
MECHANICAL ENGINEERING DEPARTMENT
COURSE OUTLINE

Calendar Description

MENG 293 Project Management & Social Responsibility

Through case studies and research assignments, this course will challenge the student with various ethical dilemmas they may encounter as an Engineering Licensee. With the aid of project management techniques and tools, students will plan a major project in preparation of their final capstone project. Emphasis will focus on such topics as: sustainable development, professional ethics, and the potential impact of technology on society, workplace safety and equality, professional responsibility and accountability.

OFFERED:	Fall Semester
CREDIT:	3
IN-CLASS WORKLOAD:	2 hours / week lecture, 2 hours / week lab
OUT-OF-CLASS WORKLOAD	4 hours
PREREQUISITES	C or above in ENGL 170, MENG 152 and MENG 162

OBJECTIVES

To successfully complete this course a learner is expected to:

INTENDED LEARNING OUTCOMES

Upon successful completion of this course a student will be able to:

1. Successfully plan and take part in aspects of engineering projects
2. Estimate Costs Estimating: Feasibility Studies and Engineering Proposals
3. Apply project management processes to
 - a. The integration of project tasks,
 - b. The scheduling of project tasks and resources
 - c. The minimizing of project risk; and,
 - d. The optimization of project activities and utilization of monetary resources.
4. Describe Organizational Quality Management
5. Describe the Technologist and Engineer's role in society with regards to:
 - a. Public safety
 - b. Social diversity
 - c. Gender diversity
 - d. Environmental sustainability
 - e. Continuous professional development
 - f. The Engineering Code of Ethics for APEGBC, ASTTBC and others.

UN-INTENDED LEARNING OUTCOMES

Design & Project Management

- Describe the engineering design process and related tools;
- Apply the design process and related tools to solve unstructured open-ended problems with specific goals but multiple potential solutions;
- Demonstrate practical applications of key engineering concepts from technology programs in fluids, thermodynamics, solid mechanics and dynamics;
- Examine how and why things fail to function

- Work effectively in a group and apply strategies to improve group dynamics;
- Demonstrate effective and professional communication skills through oral presentations and written documents

Ethics

- Explore your own motivations and the motivations of others.
- Report on various forms of ethical formalization that govern the way society and the individuals within it behave.

Sustainability

- Consider and practice sustainability as it pertains to the establishment of design goals, process and acceptable outcomes

OUTLINE

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| <ol style="list-style-type: none"> 1. Sustainability 2. Design & Sustainability <ol style="list-style-type: none"> a. Core Design Process: Integration, Rules of Design, Design Process b. The Requirements c. Sustainability in Design 3. Creativity & Design <ol style="list-style-type: none"> a. Methods of Creativity b. Rapid fire idea generation c. Methods of Selection d. Sense-of-Scale Analysis e. Detailed Design: What to focus on 4. Limits: Limits in Design 5. Organizing the Design and Creation Process <ol style="list-style-type: none"> a. What, Who, When: Mind Mapping b. Gantt Chart c. Time and resource planning d. Cost Estimating e. Project Implementation Plan 6. Failure <ol style="list-style-type: none"> a. Things Happen b. Learning from Failure | <ol style="list-style-type: none"> <ol style="list-style-type: none"> c. User Failure 7. Engineering Codes of Ethics <ol style="list-style-type: none"> a. Engineering Achievements b. Engineering Code of Ethics: ASTTBC, APEGBC, The Calling of an Engineer c. Problems in Ethics: Case Studies 8. Do What You Do <ol style="list-style-type: none"> a. What are you doing? b. Freedom c. Cultural Baggage d. Toward a Professional Code of Ethics 9. Ethical Formalizations <ol style="list-style-type: none"> a. Religious Codes b. Laws & Intellectual Property Protection c. Engineering Codes and Standards 10. Designing the Future <ol style="list-style-type: none"> a. The Designers b. Possible Futures c. A Final Word: You will design the future ... don't mess it up! |
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Instructor:

Will Spaulding, P.Eng., spaulding@camosun.bc.ca

Department of Mechanical Engineering Technology

Student Evaluation System

COURSE: Project Management & Social Responsibility ACADEMIC TERM: Fall
COURSE #: MENG 293 SECTION #:
INSTRUCTOR: Will Spaulding YEAR: 2016

<u>COMPONENTS</u>			<u>COMMENTS</u>
Assignments	40	%	
Quizzes		%	
Labs		%	
Projects/Labs		%	
Report(s)		%	
Instr. Assessment		%	
Midterm Exam(s)	25	%	
Final Exam		%	
Other: Final Project	35	%	
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TOTAL	100	%	

- A weighted average of 50% must be attained on tests/examinations and a 50% must be attained on the final examination, otherwise an F will be awarded.
- All lab work and assignments must be submitted prior to the student sitting the final examination. Late assignments will have marks deducted; if handed in after assignments have been returned to the class, no mark will be given.
- Full attendance at Labs is mandatory. If you don't attend, you won't get marks.

GRADING SYSTEM

A+	90 – 100%	B-	70 - 72%
A	85 - 89%	C+	65 - 69%
A-	80 - 84%	C	60 - 64%
B+	77 - 79%	D	50 - 59%
B	73 - 76%	F	< 50%

COMMENTS:

SIGNATURE:

DATE: 7 September 2016