

COURSE SYLLABUS



COURSE TITLE:	ECET291 – Engineering Project Management
CLASS SECTION:	X01
TERM:	2023 Fall
COURSE CREDITS:	
DELIVERY METHOD(S):	in person

Camosun College campuses are located on the traditional territories of the Ləkʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here. Learn more about Camosun's [Territorial Acknowledgement](#).

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Ryan Lidstone
EMAIL: lidstoner@camosun.ca
OFFICE: TEC206

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

Students will be introduced to engineering project management and budgeting techniques, as well as strategies for effective project teamwork. They will also study engineering standards, the effect of engineering on the environment, professional responsibility, and engineering ethics.

PREREQUISITE(S):

C+ in Principles of Math 12 or Pre-calculus 12, or C in Calculus 12 and Pre-calculus 12, or C in Calculus 12 and Principles of Math 12, or C+ in MATH 093, or C in MATH 105, or C+ in MATH 107, or C in MATH 115, or C in MATH 173, or assessment; C in Physics 11 or PHYS 101 or PHYS 151; C in English 12 or English First Peoples 12 or TPC 12, or in ENGL 092 and ENGL 094, or in ENGL 092 and ENGL 096, or in ENGL 103 and ENGL 104, or in ENGL 103 and ENGL 106, or in ENGL 130, or in ENGL 142, or in ELD 092 and ELD 094, or in ELD 097, or assessment

COURSE LEARNING OUTCOMES / OBJECTIVES

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

- *suggest strategies for negotiating specifications with clients;*
- *create Gantt and PERT charts;*
- *use project management software to facilitate tracking, scheduling, documentation, implementation and evaluation of electronic and computer engineering projects;*
- *cite the phases of a design project;*

- compare project management strategies;
- analyze and create project budgets;
- employ strategies for successful teamwork;
- describe conflict management techniques;
- define and explain the importance of international engineering standards;
- describe and give examples of how standards are developed and used;
- explain the life cycle of a product and its environmental impact
- describe the responsibilities of a professional technologist;
- describe the role, responsibilities and scope of practice of electronic and computer engineering technologists, and apply this knowledge to practice situations;
- apply the ASTTBC code of ethics and practice guidelines;
- explain the importance of the code of ethics;
- demonstrate professionalism in all channels of communication;
- respond to others in a respectful, fair and equitable manner;
- respond respectfully to and demonstrate an awareness of the effect of cultural differences on communication and interactions in the workplace;
- use appropriate non-verbal communication skills in all workplace interactions;
- respond openly and non-defensively to guidance, direction and feedback about performance;
- use relevant and current technical literature and professional resources to inform ethical and professional practice and to support ongoing technical and professional skill development;
- use information from manuals, policies, codes and standards appropriate to the specified work in order to conform to health, safety and technical standards, expectations and responsibilities.

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

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|-----------|---|-----------------------|
| 1. | <i>Engineering project management</i> | <i>7 hours</i> |
| | 1.1 Project life cycle | |
| | 1.2 Negotiating a specification with a client | |
| | 1.3 Phases of design | |
| | 1.4 Modeling a project using a design structure matrix | |
| | 1.5 Time estimation | |
| | 1.5.1 Gantt charts | |
| | 1.5.2 Program evaluation and review technique (PERT) charts | |
| | 1.5.3 Project crashing | |
| | 1.5.4 Fast tracking | |
| | 1.6 Critical chain management | |
| | 1.7 Earned value management | |
| | 1.8 Risk management | |
| | 1.9 Quality assurance | |
| | 1.10 Project reviews | |
| 2. | <i>Project budget</i> | <i>4 hours</i> |
| | 2.1 Components of a project budget | |
| | 2.2 Project costs | |
| | 2.3 Risk assessment | |
| | 2.4 Life cycle costing | |
| | 2.5 Evaluating time, resource and budget tradeoffs | |

2.6	<i>Project audits</i>	
3.	<i>Project teams</i>	<i>2 hours</i>
3.1	<i>Working as a team</i>	
3.2	<i>Effective group process</i>	
3.3	<i>Respectful communication</i>	
	3.3.1 <i>Verbal</i>	
	3.3.2 <i>Non-verbal</i>	
3.4	<i>Intercultural awareness</i>	
3.5	<i>“SMART” goals</i>	
3.6	<i>Conflict management</i>	
3.7	<i>Partially distributed teams (PDTs)</i>	
4.	<i>Engineering standards</i>	<i>5 hours</i>
4.1	<i>What is an engineering standard?</i>	
4.2	<i>Strategic importance of international standards</i>	
	4.2.1 <i>Cost reduction</i>	
	4.2.2 <i>Performance improvements</i>	
	4.2.3 <i>Access to global markets</i>	
	4.2.4 <i>Enabling strategic partnerships</i>	
4.3	<i>International standards organizations</i>	
4.4	<i>Standards development</i>	
4.5	<i>Conformity assessment and testing</i>	
4.6	<i>Examples of electronics engineering standards</i>	
5.	<i>Engineering and the environment</i>	<i>2 hours</i>
5.1	<i>Life cycle concept</i>	
5.2	<i>ISO 14000</i>	
5.3	<i>Design decisions</i>	
	5.3.1 <i>Lead-free solder</i>	
	5.3.2 <i>Use of toxic materials</i>	
	5.3.3 <i>Disposal considerations</i>	
	5.3.4 <i>Sourcing materials at distance</i>	
6.	<i>Professional responsibility</i>	<i>3 hours</i>
6.1	<i>What is a professional?</i>	
6.2	<i>The responsibilities and scope of practice of a technologist</i>	
6.3	<i>Maintaining currency</i>	
6.4	<i>Case studies</i>	
6.5	<i>Applied Science Technologists & Technicians of BC (ASTTBC)</i>	
6.6	<i>The role of the technologist in an engineering team</i>	
7.	<i>Engineering ethics</i>	<i>2 hours</i>
7.1	<i>Principles of engineering ethics</i>	
7.2	<i>ASTTBC code of ethics and practice guidelines</i>	
7.3	<i>The importance of having a code of ethics for technologists</i>	
	<i>Tests and review</i>	<i>3 hours</i>
	<i>Total</i>	<i>28 hours</i>

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced noticed is

required. Deadlines can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Assignments	70%
Tests & Quizzes	30%
	TOTAL
	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information. <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

All assignments must be completed to pass this course. Late submissions will lose 10 percentage points per day they are late. You must receive a passing grade (better than 50%) on the term test and all assignments.

These requirements will be applied at the instructor's discretion. Please advise well in advance if you anticipate difficulty with any of these requirements (that is, email your instructor if, for example, you will be handing an assignment in late).

A C or better is required to use this course as a prerequisite.

SCHOOL OR DEPARTMENTAL INFORMATION

*Electronics & Computer Engineering Technology
Chair: James van Oort*

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Support Service	Website
Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling

Support Service	Website
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Integrity

Students are expected to comply with all College policy regarding academic integrity; which is about honest and ethical behaviour in your education journey. The following guide is designed to help you understand your responsibilities: <https://camosun.libguides.com/academicintegrity/welcome>
Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for Camosun's Academic Integrity policy and details for addressing and resolving matters of academic misconduct.

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc.). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started: <http://camosun.ca/services/accessible-learning/>

Academic Progress

Please visit https://www.camosun.ca/sites/default/files/2021-05/e-1.1_0.pdf for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures" (<https://camosun.ca/registration-records/policies-and-procedures-students/registration-policies-students>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://www.camosun.ca/sites/default/files/2021-05/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-370-3841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

Looking for other policies?

The full suite of College policies and directives can be found here: <https://camosun.ca/about/camosun-college-policies-and-directives>

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.