

# COURSE SYLLABUS



COURSE TITLE: MENG 152

CLASS SECTION: X01A, X01B, X01C, X03A, X03B

TERM: W2021

COURSE CREDITS: 3.0

FORMATE: 1 lecture hours and 4 lab hours (2X 2-Hour sessions) per week

DELIVERY METHOD(S): In Person (Lecture/Labs) in combination with online resource (SolidProfessor) videos, marked quizzes, and direct instruction assignments.

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

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The COVID-19 pandemic has presented many challenges, and Camosun College is committed to helping you safely complete your education. Following guidelines from the Provincial Health Officer, WorkSafe BC, and the B.C. Government to ensure the health and wellbeing of students and employees, Camosun College is providing you with every possible protection to keep you safe. Our measures include COVID Training for students and employees, health checks, infection control protocols including sanitization of spaces, PPE and ensuring physical distancing. For details on these precautions please follow this link: <http://camosun.ca/covid19/faq/covid-fags-students.html>. However, if you're at all uncomfortable being on campus, please share your concerns with your Instructor. If needed, alternatives will be discussed.

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*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

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NAME: Len Mar, P.Eng.

EMAIL: [marLK@camosun.ca](mailto:marLK@camosun.ca)

OFFICE: TEC 133A

HOURS: As Required

*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

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[https://calendar.camosun.ca/preview\\_course\\_nopop.php?catoid=7&coid=13039](https://calendar.camosun.ca/preview_course_nopop.php?catoid=7&coid=13039)

**This course introduces concepts of engineering drawing to students using 3D parametric solid modeling software to create parts, assemblies, working drawings**

and realistic renderings. Exercises include modeling power transmission components. An introduction to surface modeling is provided.

|                  |      |
|------------------|------|
| PREREQUISITE(S): | None |
| CO-REQUISITE(S): | None |
| EXCLUSION(S):    | None |

#### COURSE LEARNING OUTCOMES / OBJECTIVES

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

- Use computer software to create fully constrained 3D models of parts and assemblies.
- Create surface models with appropriate continuity between surface elements.
- Apply lights and materials to render realistic images of models.
- Produce dimensioned part and assembly drawings that conform to acceptable drawing standards including:
  - Detail, section, primary & secondary, and exploded views
  - Balloons and parts lists
  - Pictorial representations of parts and assemblies
  - Layout and dimensioning
  - Tolerances
- Identify and draw mechanical components such as: fasteners, gears, sprockets, pulleys, splines, ball nuts and screws in 3D assemblies and working drawings.

#### REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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(a) Texts – N/A

(b) Other – Electronic Subscription – SolidProfessor On-line Training Resource

(See Cashier @ campus bookstore). Ask for MENG 152 Electronic Course Material Access Code.

Available online as well <https://online.camosun.ca/d2l/le/content/220094/viewContent/3285669/View>

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

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

#### **Anticipated Lab Topics (Spread over 14 week term):**

Students will obtain hands-on experience working on creating model parts, assemblies, and drawings. In addition, lab subjects will include the creation of Engineering Bill of Materials, Master Drawings, and Drawing Package. Introductory sheet metal, weldments, & surfacing will be demonstrated. Students will submit an industry-ready drawing package as a final project. Introduction to PDM (Product Data Management) and application during project portion (latter half of course).

|         |   |               |
|---------|---|---------------|
| Week 1  | <b>Background - Overview</b>  | Weeks Approx. |
| Week 2  | <b>Introduction and Basic Skills:</b> Purpose of drawings & standards, drawing types, paper size, basic sketching techniques, lettering. Introduction to CAD. |               |
| Week 3  | <b>Orthographic Projection 1:</b> Elements of projections. Multi-view drawings. Number of required views. 1st and 3rd angle projection. Line work.            |               |
| Week 4  | <b>Orthographic Projection 2:</b> Continuation of 1   |               |
| Week 5  | <b>Dimensioning:</b> Purpose of dimensioning. Elements of dimensioning. Symbols used. Avoiding redundancy.  |               |
| Week 6  | <b>Limits, Fits &amp; Tolerances:</b> Introduction to Limits, Fits & Tolerances   |               |
| Week 7  | <b>Reading Break</b>  |               |
| Week 8  | <b>Auxiliary Views:</b> Creating and Aligning Auxiliary Views   |               |
| Week 9  | <b>Sections &amp; Conventions:</b> Cutting planes and lines, Ribs, lugs, holes in section, Revolved sections, Breaks, Sectioned Assemblies                    |               |
| Week 10 | <b>Assembly Drawings:</b> Assembly Drawings, Parts list, Bill of Materials, Title block.  |               |
| Week 11 | <b>Pictorial Drawings:</b> Pictorial views, Oblique drawings, Development of drawings   |               |
| Week 12 | <b>Project</b>  |               |
| Week 13 | <b>Review</b>   |               |

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 notice 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

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| DESCRIPTION      | WEIGHTING |
|------------------|-----------|
| Assignments/Labs | 35        |
| Mid-Term         | 15        |
| Final Project    | 50        |
| Other            | N/A       |
|                  | 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

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### Lecture/Lab Attendance:

To get the most out of this course, students are expected to attend all classes/labs and be on time. It is your responsibility to acquire all information given during a class missed, including notes, handouts, changed exam dates etc.

### Labs:

The course was designed to allow the weekly lab assignments to be completed during the 2-2 Hour sessions.

## SCHOOL OR DEPARTMENTAL INFORMATION

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Mechanical Engineering Reserved Class (Access, 1<sup>st</sup> Year Mech Tech, Engineering Graphics Technician).

## STUDENT RESPONSIBILITY

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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

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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/>.

|                                     |   |
|-------------------------------------|---|
| Academic Advising                   | <a href="http://camosun.ca/advising">http://camosun.ca/advising</a>                       |
| Accessible Learning                 | <a href="http://camosun.ca/accessible-learning">http://camosun.ca/accessible-learning</a> |
| Counselling                         | <a href="http://camosun.ca/counselling">http://camosun.ca/counselling</a>                 |
| Career Services                     | <a href="http://camosun.ca/coop">http://camosun.ca/coop</a>                               |
| Financial Aid and Awards            | <a href="http://camosun.ca/financialaid">http://camosun.ca/financialaid</a>               |
| Help Centers (Math/English/Science) | <a href="http://camosun.ca/help-centres">http://camosun.ca/help-centres</a>               |
| Indigenous Student Support          | <a href="http://camosun.ca/indigenous">http://camosun.ca/indigenous</a>                   |
| International Student Support       | <a href="http://camosun.ca/international/">http://camosun.ca/international/</a>           |
| Learning Skills                     | <a href="http://camosun.ca/learningskills">http://camosun.ca/learningskills</a>           |
| Library                             | <a href="http://camosun.ca/services/library/">http://camosun.ca/services/library/</a>     |
| Office of Student Support           | <a href="http://camosun.ca/oss">http://camosun.ca/oss</a>                                 |
| Ombudsperson                        | <a href="http://camosun.ca/ombuds">http://camosun.ca/ombuds</a>                           |
| Registration                        | <a href="http://camosun.ca/registration">http://camosun.ca/registration</a>               |
| Technology Support                  | <a href="http://camosun.ca/its">http://camosun.ca/its</a>                                 |
| Writing Centre                      | <a href="http://camosun.ca/writing-centre">http://camosun.ca/writing-centre</a>           |

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

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### 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 Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

### Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.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"

(<http://camosun.ca/learn/calendar/current/procedures.html>) 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://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and [camosun.ca/sexual-violence](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto:oss@camosun.ca) or by phone: 250-370-3046 or 250-3703841

### 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.

**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.