



Meng 172 – Statics Outline

Course: MENG 172 – Statics W2021
Instructor: Benj Birch
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Calendar Description

Students will study topics in statics including forces, moments, distributed loads, equilibrium, statically determinate structures (including trusses, frames, machines, beams, and circular shafts), friction, virtual work, and energy formulations. Students perform analyses of free body diagrams, and determine properties of sections and components of two and three dimensional vectors. Shear and bending moment diagrams of beams are drawn.

Intended Learning Outcomes

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

- Use the principles of static equilibrium, free-body diagrams, and scalar and vector component methods to analyze the resultant and reaction forces and moments on various 2D and 3D structural forms, including frames, machines, trusses, beams and circular shafts.
- Analyze the forces acting both externally and internally on static objects and structures.
- Determine the resultant force on a body and represent it in multiple ways
- Draw shear and bending moment diagrams for beams to identify internal forces
- Determine the properties of structural forms including center of gravity, centroid of areas and moment of inertia.
- Illustrate analyses in a complete and clear manner.

Required Textbook

Engineering Mechanics: Statics & Dynamics, 14th Ed., R.C. Hibbeler (Required)

Assignments & Labs

Late assignments will garner a reduced mark Unless approved before the due date. Assignments will be graded on completion or with a subset of the questions marked for accuracy. The solutions will be posted shortly after the due date. Assignments are to be submitted by Friday at 11:59 pm of the indicated week unless otherwise posted.

Evaluation & Grading System

Assignments	10%
Labs/tutorials	10%
Quizzes	10%
Midterm Exam	30%
Final Exam	40%

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

NOTE: You must pass the final exam to receive a passing grade in MENG 172

Support Services and Policies

Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @

<http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.