

CAMOSUN COLLEGE
School of Trades and Technology
Civil Engineering Department

CIVE 191 – Statics
Fall, 2018

COURSE OUTLINE

Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

1 Instructor Information

Instructor	Peter Burrage / Perry Peterson
Office hours	Please see schedule posted outside office.
Location	TEC 112 / TEC 105
Phone	(250) 370- 4443 / 4401 Alternative: _____
E-mail	burrage@camosun.bc.ca , PetersonP@camosun.bc.ca
Website	http://civil.camosun.bc.ca/student/

2 Prerequisites and Corequisites

One of

- “C” in MATH 101 or
- “C” in MATH 191

3 Hours and Credits

Course Activity

- Lecture (Direct Instruction)
- Seminar (Direct Instruction)
- Lab /Collaborative Learning
- Supervised Field Practice
- Workplace Integrated Learning (Coop, Internship, etc.)
- Other*(please note):

Hours / Week	Instruction – No of Weeks <small>(Q=11; S=14; “P or S” = 7)</small>
2	14
3	14

Credits = 4

4 Short Description

Students are introduced to force systems, statics of rigid bodies, equivalent forces, and couple systems. Students perform analyses of free body diagrams, frames, and trusses and determine properties of sections and components of two and three dimensional vectors. Shear and bending moment diagrams of beams are drawn.

5 Intended Learning Outcomes

Upon successful completion of this course, students will be able to:

- Apply relevant safety regulations and best practices in the lab and in the field.
- Perform unit conversions using SI and US Customary units and perform analysis in both systems.
- Use the concepts of "the principles of statics", "free body diagrams" and "component methods" to determine forces acting on a body.
- Determine the resultant forces of systems of plane concurrent and nonconcurrent, plane parallel and non-parallel forces acting upon a body.
- Determine the resultant force on a body by replacing a force with a force and a couple.
- Determine conditions for equilibrium of bodies acted on by coplanar force systems, moments and couples and combinations of forces and couples in order to solve for reaction forces.
- Analyze various structural forms, including frames, trusses, and beams to find reaction forces and internal forces.
- Determine the properties of structural forms including centre of gravity, centroids of areas and moment of inertia. These properties will be used in later courses to calculate stresses.
- Draw the shear and bending moment diagrams for beams in order to identify internal forces.

6 Course Content and Schedule

<i>Week</i>	<i>Date of Monday</i>	<i>Topic</i>
1	Sept 3	General Principals / Introduction to Vectors
2	Sept 10	Force Vectors
3	Sept 17	Force Vectors
4	Sept 24	Force System Results
5	Oct 1	Force System Results
6	Oct 8	Midterm Exam 1
7	Oct 15	Equilibrium of a Rigid Body
8	Oct 22	Trusses
9	Oct 29	Frames and Machines
10	Nov 5	Internal Forces (Shear and Bending Moment Diagrams)
11	Nov 12	Midterm Exam 2
12	Nov 19	Centre of Gravity
13	Nov 26	Moment of Inertia
14	Dec 3	Review

7 Basis of Student Assessment

<i>Component</i>	<i>Weighting</i>	<i>Comments</i>
Assignments		
Mid-term Exams	30%	
Quizzes	20%	
Labs		
Final Exam	50%	
TOTAL	100%	

8 Recommended Materials to Assist Students to Succeed Throughout the Course

a) Texts –

Statics and Mechanics of Materials, 5E; RC Hibbeler; Pearson;
ISBN 978-0-13-438259-3.

b) Other –

9 College Supports, 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.

10 Grading System

- Standard Grading System (GPA)*
- Competency Based Grading System*

See [Camosun Grading Policy E-1.5](#)

11 Class Policies

- You must pass the final exam (minimum of 50%) to pass the course.