



**ECET244: Electric machines**  
**Fall 2020**

**COURSE OUTLINE**

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The calendar description is available on the web @ \_\_\_\_\_

*Ω 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.*

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**1. Instructor Information**

(a) Instructor	Ian Browning	_____
(b) Office hours	See D2L schedule	_____
(c) Location	Tec267	_____
(d) Phone	370 4015	Alternative: _____
(e) E-mail	browning@camosun.ca	_____
(f) Website	Refer to D2L	_____

**2. Intended Learning Outcomes**

*(If any changes are made to this part, then the Approved Course Description must also be changed and sent through the approval process.)*

1. Describe the various methods of AC and DC generation.
2. Discuss typical polyphase connections of transformers in a three phase power system.
3. Explain the methods used to develop torque in single and polyphase motors.
4. Construct and analyze motor control circuits in both AC and DC.
5. Calculate circuit parameters for the motor, generator, and transformer circuits.
6. Select and use appropriate test equipment to measure and verify correct operation of motors, generators, and transformers.
7. Use complex numbers and vector diagrams to calculate circuit parameters.
8. Use appropriate diagnostic procedures to troubleshoot faulty circuits.
9. Select the appropriate machine for a given task.

**Course description**

Students will be introduced to fundamentals of electricity, magnetism, mechanics, and heat as they relate to electric machines and transformers. Students will apply these principles to the study of DC motors and generators, single and polyphase motors, alternators, and systems. Students will be able to select suitable system components, use appropriate instrumentation and apply appropriate safety procedures to implement various scenarios in a lab environment.



## 8. 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.

## A. GRADING SYSTEMS <http://www.camosun.bc.ca/policies/policies.php>

The following two grading systems are used at Camosun College:

### 1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

## 2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

## B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://www.camosun.bc.ca/policies/E-1.5.pdf> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.