

# COURSE SYLLABUS



COURSE TITLE: Cardiopulmonary Rehabilitation

CLASS SECTION: Kinesiology 430

TERM: 2025 Winter

COURSE CREDITS: 3

DELIVERY METHOD(S): Lecture

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](#).

For COVID-19 information please visit <https://legacy.camosun.ca/covid19/index.html>.

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## Mandatory Attendance for First Class Meeting of Each Course

The Kinesiology Department requires mandatory attendance for the first class meeting of each Kinesiology (KIN) course. If you do not attend, and do not contact your instructor to provide a reasonable explanation 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 for Students" [Registration Policies for Students | Camosun College](#)

## INSTRUCTOR DETAILS

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NAME: Katherine Haber

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

OFFICE: PISE 317

HOURS: Thursdays 2:00-3:00 – available at other times by appointment.

*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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Students will explore the advanced theoretical and practical application of contemporary medical management of cardiopulmonary conditions with an emphasis on rehabilitative interventions to improve morbidity and reduce mortality. Students will review the practices of assessment, education, and behaviour modification of risk factors and the role of appropriate exercise programs in the prevention, treatment, and management of individuals with cardiopulmonary conditions and their accompanying comorbid conditions.

PREREQUISITE(S): C in [KIN 400](#)

EQUIVALENCIES: SPEX 430

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:

- Interpret the risk factors and pathophysiological basis of major cardiopulmonary conditions and the benefits of exercise in risk factor modification
- Explain the signs, symptoms, and mechanisms underlying major common cardiopulmonary conditions
- Compare the aspects of incidence, diagnosis and treatment of major cardiopulmonary conditions
- Provide education, counseling and lifestyle coaching to individuals with major cardiopulmonary conditions
- Critique common medical evaluation and exercise testing techniques to assess, treat and manage individuals with major cardiopulmonary conditions
- Interpret the rationale and methods for calculation for pre-participation models and risk stratification for major cardiopulmonary conditions
- Explain the basic concepts of cardiopulmonary rehabilitation programs
- Identify common cardiopulmonary medications and describe their influence at rest and during exercise
- Demonstrate knowledge of the effects of acute and chronic exercise on physiological responses and pathophysiological processes in individuals with major cardiopulmonary conditions
- Design, prescribe suitable, safe and effective exercise rehabilitation programs for individuals with cardiopulmonary conditions
- Demonstrate an awareness of the major co-morbidities accompanying many patients with cardiopulmonary disease (i.e.: diabetes) that can negatively influence the cardiopulmonary disease.
- Demonstrate the ability to design and prescribe safe and effective exercises that can positively influence an individual's co-morbid condition, as well as their cardiopulmonary disease.
- Demonstrate an understanding of the concepts of program management, continuous quality improvement and follow up for cardiopulmonary rehabilitation programs

## REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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1. Course notes and slides located on D2L
2. *ACSM's Guidelines for Exercise Testing and Prescription* (11<sup>th</sup> Ed.). (2022). American College of Sports Medicine (ACSM). Wolters Kluwer Publishers. Paperback ISBN # 9781975150198; (or) Spiral Bound ISBN # 9781975150181.

Additional Texts used in preparation of this material but not required reading:

- Canadian Guidelines for Cardiac Rehabilitation and Cardiovascular Disease Prevention, 3rd Edition. Text written and published by the Canadian Association of Cardiac Rehabilitation, Winnipeg, Manitoba, 2009. ISBN 978-0-9685851-3-9
- ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities. 4<sup>th</sup> Edition. ACSM – American College of Sports Medicine. 2016. Human Kinetics Publishers.: 475 Devonshire Road, Unit 100, Windsor, Ontario, N8Y 2L5. ISBN 978-1-4504-3414-0.

## 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.

Lecture & Lab Activities Wednesday 11:30am – 1:20pm PISE 329A  
Lecture & Lab Activities Friday 12:30am – 2:20pm PISE 329A

| WEEK & DATES | ACTIVITY or TOPIC  |
|--------------|--|
| Week 1:      | <p>Introductions<br/>Cardiopulmonary Statistics</p> <p><b><u>Class Activity #1:</u></b> Present Statistics = 3%</p> <p>Pathophysiology of Cardiopulmonary Disease.</p> <ul style="list-style-type: none"> <li>Review and student presentation of pathophysiology of coronary artery disease, congestive heart failure, heart valve problems, cardiomyopathy, COPD, asthma, and other common cardiopulmonary diseases.</li> </ul> <p><b><u>Class Lab #1:</u></b> Heart Attack Grill Article = 4%</p>  |
| Week 2:      | <p>Cardiopulmonary Rehab and Chronic Disease Management</p> <ul style="list-style-type: none"> <li>Describe and define how Cardiac and Respiratory Rehabilitation integrates into chronic disease definition and chronic disease management</li> <li>Describe the benefits of chronic disease management in the treatment and decrease of progression of cardiopulmonary disease.</li> </ul> <p><b><u>Class Activity # 2:</u></b> Crossword = 2%</p> <p>Debate discussion utilizing these chronic diseases and working with societal questions of economics, statistics and treatment decisions.</p> <p><b><u>Class Activity # 3:</u></b> Debates = 3%</p>   |
| Week 3:      | <p>Medical definitions and abbreviations used in cardiopulmonary disease diagnosis, treatments and rehabilitation</p> <ul style="list-style-type: none"> <li>Effectively communicate in layman's terms medical terminology and abbreviations commonly used with cardiopulmonary disease and rehab.</li> <li>Demonstrate familiarity with medical documentation and abbreviations</li> <li>Effectively communicate in layman's terms description, incidence and treatments of common cardiopulmonary disease conditions. (i.e. MI, CHF, asthma, etc.) in Canada (from the CACR) and also what is included in ACSM</li> </ul> <p><b><u>Class Activity # 4:</u></b> Matching Abbreviations = 2%</p> <p><b><u>Class Lab # 2:</u></b> Teaching Definitions = 4%</p> |

| WEEK & DATES                                   | ACTIVITY or TOPIC  |
|--|--|
| <p><b>Week 4:</b></p>                          | <p>Pre-participation health screening, risk factors &amp; benefits of cardiopulmonary rehab: Demonstrate proficiency in interpreting cardiopulmonary risk factors within commonly used models and be able to articulate the benefits of rehabilitative exercise in risk factor modification.</p> <ul style="list-style-type: none"> <li>• Identify goals of risk factors and common methods to achieve them</li> <li>• Identify benefits of exercise on risk factor reduction and disease processes.</li> <li>• Demonstrate familiarity with Risk Factor Modification in cardiopulmonary rehab in terms of:</li> <li>• Primary and Secondary prevention</li> <li>• Pre-participation evaluations &amp; Risk Stratification Models in cardiopulmonary disease</li> <li>• Barriers to Risk Factor Modification Goals in cardiopulmonary disease and how to overcome these</li> <li>• Negative effects of Physical Inactivity</li> <li>• Current recommendations for cardiopulmonary rehab exercise</li> <li>• Student presentation of review of the benefits of cardiopulmonary rehab (CPR)</li> </ul> <p><u><b>Class Activity # 5:</b></u> Benefits of CPR = 2%</p> <p><u><b>Class Lab # 3:</b></u> Risk Factor Management = 4%</p> |
| <p><b>Week 5:</b></p>                          | <p>Teaching &amp; interpreting common cardiopulmonary diagnostic tests &amp; treatments: Effectively communicate in layman's terms the common diagnostic tests &amp; tools and tests used in cardiopulmonary rehab and disease</p> <ul style="list-style-type: none"> <li>• Rationale for the test being ordered</li> <li>• Interpretations of the test</li> <li>• Possible resultant treatments from that test</li> <li>• Ability to describe the tests, their use and any prep necessary to cardiopulmonary clients.</li> </ul> <p><u><b>Class Activity # 6:</b></u> Teaching the CPR tests to the class = 2%</p> <p><u><b>Class Activity # 7:</b></u> Interpreting CPR Tests = 3%</p>   |
| <p><b>Week 6:</b></p>                          | <p>Common cardiopulmonary medications &amp; exercising effects: Identify common cardiopulmonary medications, their influence at rest and during exercise and demonstrate how to customize an exercise prescription to adapt to these medications.</p> <ul style="list-style-type: none"> <li>• Awareness of effects of medications with exercise on physiology</li> <li>• Awareness of exercise precautions &amp; considerations with cardiopulmonary drugs.</li> </ul> <p><u><b>Class Lab # 4:</b></u> Working with CPR Medications = 5%</p>  |
| <p><b>Week 7:</b><br/><b>Feb 18-Feb 21</b></p> | <p>Reading Week – no scheduled classes</p>   |
| <p><b>Week 8:</b></p>                          | <p>Midterm Review</p> <p>The mid-term is a one (1) hour computer-based exam consisting of multiple choice, true/false, matching questions and short answers.</p> <p><u><b>Midterm exam</b></u> = 25%, in class on Friday Feb 28th</p>  |

| WEEK & DATES                                  | ACTIVITY or TOPIC   |
|---|---|
| <p><b>Week 9:</b></p>                         | <p>Introduction &amp; interpretation of ECG. Identify common cardiac arrhythmia conditions, the hemodynamic consequences and what would be an effective action. This is based on three (3) Lead ECG and includes:</p> <ul style="list-style-type: none"> <li>• Identification of the normal 3 lead ECG</li> <li>• Recognition of common abnormal (life-threatening) ECG's</li> <li>• Describe the hemodynamic consequences of abnormal ECG's</li> <li>• Describe the proper action to take if a client demonstrates an abnormal ECG</li> <li>• Introduction to the 12 lead ECG and its use in diagnosis</li> </ul> <p><b>Class Lab # 5:</b> Interpreting ECG = 5%</p>   |
| <p><b>Week 10:</b></p> <p><b>Week 11:</b></p> | <p>Working with common cardiopulmonary diagnostic exercises, interpreting results and the arts &amp; science of cardiopulmonary exercise prescription. Examine, interpret and utilize common medical evaluation results and exercise testing techniques to assess and develop effective exercise prescriptions.</p> <ul style="list-style-type: none"> <li>• Common testing techniques used in cardiopulmonary disease diagnosis such as Bruce Protocol treadmill tests, bike tests, 6-minute walk test,</li> <li>• Rational for different tests</li> <li>• Interpretation &amp; influence of these common tests for exercise prescription.</li> </ul> <p>Creating effective exercise prescriptions using case histories and utilizing:</p> <ul style="list-style-type: none"> <li>• RPE &amp; Borg scales</li> <li>• Adaptations for co-morbid conditions</li> <li>• Adaptations for medications, arrhythmias, and exercise testing results</li> <li>• Guidelines and knowledge of when and how to adjust the exercise prescription</li> <li>• Guidelines for when to terminate the exercise session and obtain assistance</li> <li>• Guidelines for the exercise prescriptions when common testing technique results are not available</li> </ul> <p><b>Class Lab # 6:</b> Exercise Prescription Scenarios and adapting to co-morbidities, ECG and medications = 5%</p> |
| <p><b>Week 12:</b></p>                        | <p>Complete Exercise Prescription scenarios.</p> <p>Psychosocial Issues- Communicate effective education, counseling, and lifestyle coaching techniques that could be utilized with individuals with major cardiopulmonary conditions.</p> <p>This includes:</p> <ul style="list-style-type: none"> <li>• Psychosocial aspects for lifestyle and risk factor management of chronic disease.</li> <li>• Methods to increase exercise compliance and motivation.</li> <li>• Identification of concerns of depression and use of tools such as PHQ-9</li> </ul> <p><b>Class Activity # 8:</b> Dealing with Psychosocial Issues = 3%</p>  |

| WEEK & DATES        | ACTIVITY or TOPIC  |
|---------------------|--|
| <b>Week 13:</b>     | <p>Models &amp; designs of cardiopulmonary programs &amp; program equipment. Demonstrate an understanding of the concepts of program management, continuous quality improvement and follow-up for cardiopulmonary rehabilitation programs:</p> <ul style="list-style-type: none"> <li>• Accurate documentation, client history taking and screening and utilization of motivational interviewing.</li> <li>• Effective communication with MD and medical community.</li> <li>• Keeping useful statistics and utilizing progress reports.</li> </ul> <p>Demonstrate effective emergency precautions and response by.</p> <ul style="list-style-type: none"> <li>• Describing emergency precautions and guidelines for cardiopulmonary rehab programs</li> <li>• Working collaboratively in teams within emergency situation scenarios</li> </ul> <p>Describe the benefits and negatives of common cardiopulmonary rehab program models and designs.</p> <ul style="list-style-type: none"> <li>• Describe the equipment required for cardiopulmonary rehab programs</li> </ul> <p>Marketing techniques</p> <ul style="list-style-type: none"> <li>• Describe marketing techniques for cardiopulmonary rehab programs</li> </ul> <p><b>Class Activity # 9:</b> Creation of program-specific equipment and Program Options = 3%</p> |
| <b>Week 14:</b>     | <p>Complete program-specific equipment and program options activity if needed.</p> <p>Final Exam Review</p>  |
| <b>Weeks 15/16:</b> | <p>Final Exam Block Apr. 14 – 25, 2025</p> <p><b>Final Exam:</b> 25%</p> <p>Three (3) hour computer-based open book exam using Case Histories.</p>   |

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 scan 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   |
|--|-------------|
| Mid Term Written - Multiple Choice exam on computer.<br>(February Midterm Exam Week) | 25%         |
| In-Class Activities & Labs (See Course Outline)                                      | 50%         |
| Final Exam - Open Book Case Histories<br>(Final Exam Week)                           | 25%         |
| <b>TOTAL</b>   | <b>100%</b> |

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>

### **Lecture Attendance**

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

### **Class Activities and Class Labs**

Participation in Class Activities and Class Labs is essential to the course objectives, and largely involves discussion of the weekly topic and assigned readings or activities. It is also an opportunity for students to ask questions and learn from each other. The participation grade is assigned based on the level of your constructive engagement in these weekly activities and labs.

### **Due Dates and Late Assignments**

The due dates are established per the course and term duration. The due dates are important to ensure the assignments are completed and marked in a timely manner. Just as you need time to complete the assignments, I need enough time to grade them. As such, the due dates are fixed (unless you have an approved academic accommodation through CAL) and it is expected that students will hand in assignments on time. Assignment marks, comments, and feedback will be returned to students promptly, usually within 1-3 weeks, depending on the length of the assignment.

All assignments must be handed in by the time indicated (on the assignment, or on D2L). Late assignments may be graded but marks equivalent to 10% of the total value of the assignment will be deducted for each day, inclusive of days on the weekend, past the deadline. If assignments have already been marked and returned, a late assignment will not be accepted. Assignments will not be accepted that are late more than *three days*, inclusive of days over the weekend.

### **Exam Procedures**

All exams must be written at the scheduled times with the exception of students requiring an accommodation by CAL. It is understood that emergency circumstances do occur (e.g. severe illness or family emergency); for such circumstances, accommodation may be offered at the discretion of the instructor, provided the student: a) notifies the instructor in advance of the exam (not after), and b) provides documented evidence of the circumstance (e.g. medical certificate).

If an exam is missed with an excused absence, it is up to the instructor's discretion as to how the mark will be made up. In most cases, an oral exam will be scheduled for the student as soon as possible.

Be sure not to make travel plans for the end of the semester until the final exam schedules are finalized and posted. Please ask any family members who might make travel plans on your behalf to consult you before booking tickets.

Please note: Unless you have been given permission, the use of cell phones during a test or quiz is not allowed and may result in a zero for that assessment

## Study Habits

Good and regular study habits are essential to do well in this course. You should plan on a weekly minimum of 6 hours outside of scheduled class time for the completion of readings and assignments, and for general studying. Joining a study group can help make this more achievable.

Lecture presentations will be uploaded to the course website. These should be used as a study guide, not as your sole source of information. You will need to write down additional key words for examples and explanations given during the lecture and review text and videos to support your understanding. It is also recommended practice to transform lecture notes into a study-friendly format after each lecture, incorporating additional information from your textbook. Study these notes before the next class to prepare yourself for new material, which will often build on previously covered material.

Please take advantage contacting me if you require extra clarification and help. Contact can be arranged by emailing me or speaking with me after class.

## 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/>.

| Support Service                     | Website   |
|-------------------------------------|---|
| 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 Centres (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>     |



| Support Service           | Website   |
|---------------------------|---|
| 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

### 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.