

# CLASS SYLLABUS



COURSE TITLE: MRAD 156 – Relational A&P – Part A  
CLASS SECTION: BX01  
TERM: S2023  
COURSE CREDITS: 3  
DELIVERY METHOD(S): Synchronous/Asynchronous

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](#).

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<https://camosun.ca/about/covid-19-updates>

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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: Dan Andrews  
EMAIL: [AndrewsD@camosun.ca](mailto:AndrewsD@camosun.ca)  
OFFICE: CHW 317  
HOURS: 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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In this advanced beginner course, students complete an in-depth examination of the relational anatomy and physiology of the musculoskeletal, respiratory, and cardiovascular systems. Students enhance their understanding of anatomic relationships and physiologic functions using various medical imaging studies and a variety of illustrative media.

**Note:** Only open to students in the Medical Radiography program.

PREREQUISITE(S): **All of:** C+ in MRAD 106  
CO-REQUISITE(S): N/A  
PRE/CO-REQUISITE(S): N/A

## COURSE DELIVERY

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ACTIVITY	HOURS / WEEK	# OF WEEKS	ACTIVITY HOURS
Lecture	4	15	

Seminar		
Lab / Collaborative Learning		
Supervised Field Practice		
Workplace Integrated Learning		
Online		
	<b>TOTAL HOURS</b>	<b>60</b>

## COURSE LEARNING OUTCOMES

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

1. interpret anatomical structures and relationships of the musculoskeletal, respiratory, and cardiovascular systems using multi-media including medical images. (N/A, RTR.3.1)
2. discuss the physiological function of the musculoskeletal, respiratory, and cardiovascular systems as they pertain to the practice of medical imaging. (N/A, RTR.3.1)
3. compare and contrast the anatomic and physiologic information obtained by various medical imaging modalities. (N/A, RTR.3.1)

## COURSE OBJECTIVES AND MAPPED PROFESSIONAL COMPETENCIES

(also known as “sub-outcomes” or “learning objectives”)

**Canadian Association of Medical Radiation Technologists Competency Profile, Radiological Technology (2019)**

### Muscular System

- Define key terms related to muscle groups. **RTR.3.1**
- Identify the major muscles in the body. **RTR.3.1**
- Discuss how muscles are named. **RTR.3.1**
- Discuss attachment of muscles and muscle actions. **RTR.3.1**
- Identify key terms related to the muscular system. **RTR.3.1**
- Describe the structure of skeletal muscle. **RTR.3.1**
- Explain the functions of skeletal muscle. **RTR.3.1**
- Identify key terms related to the motor unit. **RTR.3.1**
- Describe the muscle unit and the muscle stimulus needed to contract it. **RTR.3.1**
- Differentiate the types of skeletal muscle contraction. **RTR.3.1**
- Discuss major muscular disorders. **RTR.3.1**

### Cardiovascular system

- Define key terms related to the heart. **RTR.3.1**
- Discuss the anatomy of the heart. **RTR.3.1**
- Describe the heart valves and disorders of the valves. **RTR.3.1**
- Define key terms related to pulmonary, systemic, and coronary circulation. **RTR.3.1**
- Trace the blood's route through the heart and pulmonary, systemic, and coronary circulations. **RTR.3.1**
- Discuss coronary heart disease. **RTR.3.1**
- Describe common treatments and surgical interventions for coronary heart disease. **RTR.3.1**
- Define key terms related to the blood vessels. **RTR.3.1**
- Explain the structure and function of blood vessels. **RTR.3.1**
- Recognize the primary disorders of blood vessels. **RTR.3.1**
- Define key terms related to the circulation of the blood. **RTR.3.1**
- Describe pulmonary and systemic circulations. **RTR.3.1**
- Discuss the unique features of hepatic portal and fetal circulations. **RTR.3.1**

- Define key terms related to the conduction of the heart. **RTR.3.1**
- Describe the primary components of the heart conduction process. **RTR.3.1**
- Define key terms related to blood pressure. **RTR.3.1**
- Discuss the physiology of blood pressure. **RTR.3.1**
- Indicate the primary pulse points on the body. **RTR.3.1**
- List and explain the primary types of circulatory shock. **RTR.3.1**

### Respiratory

- Define key terms relevant to respiration, air distribution, and gas exchange. **RTR.3.1**
- List the two basic functions of the respiratory system. **RTR.3.1**
- Identify the major organs of the respiratory system. **RTR.3.1**
- Describe the respiratory tract and mucosa. **RTR.3.1**
- Define key terms related to structure, function, and conditions of the upper respiratory tract. **RTR.3.1**
- Identify the structures of the upper respiratory tract. **RTR.3.1**
- Describe the functions of each part of the upper respiratory tract. **RTR.3.1**
- Describe common conditions affecting the upper respiratory tract. **RTR.3.1**
- Define key terms related to the structure, function, and conditions of the lower respiratory tract. **RTR.3.1**
- Identify the structures of the lower respiratory tract. **RTR.3.1**
- Identify the functions of each part of the lower respiratory tract. **RTR.3.1**
- Describe respiration. **RTR.3.1**
- Explain the mechanics of breathing including the exchange of gases in the lungs and tissues. **RTR.3.1**
- Identify the volumes of air exchanged during [pulmonary ventilation](#). **RTR.3.1**
- Describe the regulation of respiration. **RTR.3.1**
- Identify the types of breathing. **RTR.3.1**
- Describe common conditions affecting the lower respiratory tract. **RTR.3.1**

### REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Patton, K. & Thibodeau, G. (2022). *Anatomy & Physiology* (11<sup>th</sup> ed.) Textbook & Lab Manual. Elsevier Health Sciences.

### 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.

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
1—May 1-5	Course Intro	
2—May 8-12	Ch. 15 Part 1: Muscle Structure & Fibre Arrangement Ch. 15 Part 2: Axial Muscles	
3—May 15-19	Ch. 16: Appendicular Muscles	
4—May 22-26	<b>No class Monday (Victoria Day)</b> Ch. 16 Appendicular Muscles, cont.	
5—May 29-June 2	Ch. 17 Muscle Contraction	

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
6—June 5-9	Ch. 28 Heart	Test 1
7—June 12-16	Ch. 28 Heart, cont.	
8—June 19-23	Ch. 29 Blood Vessels	
9—June 26-30	Ch. 30 Circulation of Blood	
10—July 3-7	Test 2 (10%)	Test 2
11—July 10-14	<b>No class Monday (Canada Day)</b> Ch. 35 Respiratory Tract	
12—July 17-21	Ch. 36 Ventilation	
13—July 24-28	Ch. 37 Gas Exchange & Transport	Test 3
14—July 31-August 4	Flex Week	
15—August 7--11	Final Exam Week	

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>

## STUDENT EVALUATION

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DESCRIPTION	WEIGHTING
Assignments	20%
Quizzes	20%
Tests	30%
Final Exam	30%
<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>

## COURSE GUIDELINES & EXPECTATIONS

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### TEST AND EXAMINATION PROCEDURES

#### TEST AND EXAMINATION PROCEDURE

There are policies regarding Teaching and Learning Practices for HHS Students, including written test and examination procedures including late arrivals and missed tests. Please see the Health and Human Services Student Handbook item 5.4 for Test and Examination Procedures.

(<https://legacy.camosun.ca/learn/school/health-human-services/student-info/index.html#teaching>)

Please, inform me as soon as possible if conditions have arisen to prevent you from taking your examination during the available times.

## ASSIGNMENTS

Students requiring an extension for the due date of an assignment must negotiate with the instructor, at least 48 hours before the due date. Assignments submitted late without an approved extension will result in a 10% deduction in marks for each day late, until the eve of the next assignment due date, or whenever the assignment no longer has value; whichever comes first. Abandoned/late assignments will not be accepted during the Flex weeks at the end of the semester.

## SCHOOL OR DEPARTMENTAL INFORMATION

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Health & Human Services Student Handbook: <http://camosun.ca/learn/school/health-human-services/student-info/index.html>

General Practicum Information: <http://camosun.ca/learn/school/health-human-services/student-info/practicum-info.html>

Allied Health & Technologies Department Handbooks:

- Certified Medical Laboratory Assistant: <http://camosun.ca/learn/school/health-human-services/student-info/program-info/cmla.html>
- Diagnostic Medical Sonography: <http://camosun.ca/learn/school/health-human-services/student-info/program-info/sono.html>
- Medical Radiography: <http://camosun.ca/learn/school/health-human-services/student-info/program-info/mrad.html>

Students enrolled in Allied Health & Technologies Programs must achieve a minimum of 65% or a “COM” in each of their courses in order to use their course as a pre-requisite and progress in their program.

Students enrolled in Allied Health & Technologies Programs must participate in learning activities that include intimate and direct personal contact with their classmates during supervised practice. Students are training to perform the duties of a healthcare professional. These duties usually require constant, close physical contact with patients and clients. Students may be required to simulate and perform these activities on one another during this course. Students may also be required to use special hygiene practices and protective gear to protect themselves from the transmission of communicable diseases (like COVID-19). Risks associated with learning and performing the physical duties of a healthcare profession cannot be entirely eliminated by any amount of caution or protection. Students who refuse, or are incapable of participating and performing these activities due to personal or medical limitations, may only continue to participate in their course work when supported by officially registered accommodations or temporary medical advisory.

## 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>
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 250-370-3841

### 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.