

 <p>CAMOSUN COLLEGE</p>	<p style="text-align: center;">School of Health & Human Services Medical Radiography Technology</p> <p>Course Name: Relational Anatomy and Physiology</p> <p>Course Number: MRAD 115</p>
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COURSE OUTLINE

The Approved Course Description is available on the web:

<http://camosun.ca/learn/calendar/current/web/mrad.html#MRAD115>

Please note:

- *This outline will be electronically stored for five (5) years only. It is strongly recommended students keep this outline for your records.*
- *This course is only open to students in the Medical Radiography program.*

Introduction:

This course is the first of three consecutive courses examining normal human structure and function. Three approaches to anatomy are utilized: (1) an examination of selected body systems, (2) a regional approach, relating components of these systems to nearby organs, and (3) the systems and regional viewpoints are integrated into a sectional imaging approach, viewing parts of the body in all three fundamental body planes, and in oblique planes where appropriate. Conventional anatomic presentations are supplemented by images obtained from a variety of diagnostic medical imaging technologies.

Physiology is presented where it is relevant to, and contributes to an understanding of structure, the relationships among adjacent organs, to fundamental body processes, functional diagnostic imaging procedures and important clinical considerations.

Topics include a review of cell biology and homeostasis, followed by examination of the integumentary, musculoskeletal, pulmonary, cardiovascular and gastrointestinal systems.

CO-REQUISITE: MRAD 105 is a co- requisite for this course.

Students must achieve a minimum of a C+ (65%) to use this course as a prerequisite. Refer to the Camosun Calendar for detailed information about course prerequisites.

1. Instructor Information

(a)	Instructor:	Allen Lewis
(b)	Office Hours:	Monday 1130 – 1220 and Thursday 1230 – 1320 or by appt
(c)	Location:	WT212D
(d)	Phone:	250-370-3992
(e)	Email:	lewisa@camosun.bc.ca
(f)	Website:	http://online.camosun.ca/

2. Intended Learning Outcomes/Competencies

Letters and numbers following certain learning outcomes indicate the specific competencies covered from the CAMRT Medical Radiography Competency Profile:

Upon completion of this course the student will be able to:

1. Describe the four main tissues of the body; epithelial, connective, muscular and nervous tissues.
2. Identify and describe the components of the musculoskeletal system. (F2.1, 3.1, 4.1, 5.1, 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1, 13.1, 14.1, 15.1, 16.1, 17.1, 18.1, 19.1, 20.1, 21.1, 22.1, 23.1, 24.1, 28.1, 32.1, 33.1, 40.1, 42.1)
3. Describe the general process of homeostasis in the physiology of organ and apply the concepts to calcium regulation within the musculoskeletal system (F42.1)
4. Identify the organs of each of the pulmonary, cardiovascular and gastrointestinal systems, and describe their relationships to surrounding structures. (G2.1, G3.1, G4.1, G5.1, G6.1, G7.1, H2.1, H3.1, I2.1, K1.1, M1.1, M1.4,)
5. Relate structure to function in the integumentary, skeletal, muscular, respiratory, cardiovascular and gastrointestinal systems. (G2.1, G3.1, G4.1, G5.1, G6.1, G7.1, H2.1, H3.1, I2.1, K1.1,)
6. Apply anatomical and physiological principles of these systems to the practice of radiographic technology. (F28.5, F32.5, F33.5, G2.5, G4.9, G5.9, G6.10, G7.8, H2.5, H3.5, K1.12, L1.5)
7. Apply knowledge of anatomy and physiology to begin the identification and interpretation of conventional X-ray images and CT scans in different body planes. (K1.1, K1.12, L1.10)
8. Describe what physiological information can be obtained by application of functional imaging techniques. (G2.2, 3.2, 4.2, 5.2, 6.2, 7.2; H2.2, H3.2; I2.2; K1.3.)

[CAMRT Medical Radiography Competency Profile](#)

3. Learning Resources

Required Textbooks:

Marieb, E.N. Essentials of Human **Anatomy and Physiology**, 10th Edition, (Benjamin Cummings)

Marieb, E.N. **Anatomy and Physiology Coloring Workbook**, 9th Edition, 2008 (Benjamin Cummings)
Applegate, E.J. **The Sectional Anatomy Learning System: Concepts**, 3rd Edition (Saunders)
Applegate, E.J. **The Sectional Anatomy Learning System: Applications**, 3rd Edition (Saunders)
Drake, R.L., Vogl, W., Mitchell, A., **Gray's Anatomy for Students**, Current edition (Elsevier, Churchill Livingstone)

Recommended (on reserve in library):

Basic Anatomy and Physiology

Tortora, G.J., **Principles of Anatomy and Physiology**, Current edition (Harper and Row)
Martini, F.H., Timmons, M.J., Tallitsch, R.B. **Human Anatomy**, Current edition (Prentice Hall)

Advanced Anatomy

Moore, K.L., **Clinically Oriented Anatomy**, Current edition (Lippincott, Williams & Wilkins)
Warwick, R., Williams, P.L., Eds., **Gray's Anatomy**, Current edition (Longman)

Advanced Physiology

Berne, R.M., Levy M.N., Eds., **Physiology**, Current edition (Mosby)
Boron, W.F., Boulpaep, E.L., Eds., **Medical Physiology**, Current edition (W.B. Saunders)

Histology

Young P., Heath J.W., **Wheater's Functional Histology**, Current edition (Elsevier, Churchill Livingstone)

Imaging and Sectional Anatomy

Weir, J. Abrahams, P.H., **Imaging Atlas of Human Anatomy**, Current edition (Mosby)
Hofer, M., **CT Teaching Manual**, Current edition (Thieme Kelley, L.L., Petersen, C.M.),
Sectional Anatomy for Imaging professionals (Mosby)
Madden, M.E., **Introduction to Sectional Anatomy**, Current edition (Lippincott, Wilkins & Williams)

Desire-to-Learn (D2L):

The course will be administered via a D2L site. This site can be accessed from the Camosun homepage via online services and then online courses. Lecture notes and in Power Point. You may prefer to download lectures ahead of time and then write your notes directly onto copies of the slides. Lecture notes must not be considered your sole source of information! They are merely a summary of the main points and you will need to write down additional information in each lecture. In addition, not all details can be covered in a lecture, and you will be required to refer to textbook material that is not discussed specifically in class.

4. Student Assessment

Weekly Quizzes	15 %
Midterm Exam 1	25 %
Midterm Exam 2	25%
Final Exam	35 %
TOTAL	100 %

Students must achieve a C+ (65%) to use this course as a prerequisite.

5. Course Content and Schedule:

Lecture Days/Times & Room Number:

Mon 9:30 – 11:20 am; Thu 10:30am – 12:20 pm; WT212C

The following schedule is tentative and subject to change if deemed necessary by the instructor.

Week	Week of	Module	Topics and Quizzes
1	Sept 6	1. Introduction to Cells	Review of cellular structure and function
2	Sept 10/13 Sept 13	2. Introduction to tissues 3. Skin and Membranes	Quiz 1: Module 1
3	Sept 17/20 Sept 20	4. Homeostasis 5. Musculoskeletal System	Calcium Case Study Anatomy of bone and cartilage Quiz 2: Module 2
4	Sept 24/27 Sept 27 Sept 27	Musculoskeletal System	Bone growth and repair Muscle structure Quiz 3: Module 3
5	Oct 1/4 Oct 4	Musculoskeletal System	Muscle function Quiz 4: Module 4/5: Homeostasis, Bone and cartilage
6	Oct 8/11 Oct 11	Thanksgiving Holiday Musculoskeletal System	Muscles of the Body Quiz 5: Module 4: Muscle
7	Oct 15/18 Oct 18	CT of upper limb joints MIDTERM-I	Shoulder and Elbow Joints MIDTERM 1: Modules 1-5
8	Oct 22/25 Oct 25	CT of lower limb joints 6. Thoracic Cavity	Hip and Knee Joints Quiz 6: Module 5 Shoulder & Elbow

Week	Week of	Module	Topics and Quizzes
9	Oct 31/Nov 1 Nov 1	Cardiovascular System	Heart and Great vessels Quiz 7: Module 5 Hip and Knee
10	Nov 5/8 Nov 8	Respiratory System	Anatomy of the respiratory system Quiz 8: Module 6 Thoracic Cavity
11	Nov 12/15 Nov 15	Remembrance Day 7. The Abdominal Cavity MIDTERM-II	The boundaries and divisions MIDTERM 2: Modules 5-6
12	Nov 19/22 Nov 22	8. The Digestive System	Anatomy of GI tract Quiz 9: Module 6 Respiratory system
13	Nov 26/29 Nov 29	Digestive system	Physiology of GI tract Quiz 10: Module 7/8 Anatomy of GI
14	Dec 3/6 Dec 6	Relational anatomy Digestive system	Relational anatomy of GI Quiz 11: Module 10/Physiology
15	Dec 10-15,	FINAL EXAM (cumulative exam)	25% weeks 1- 8 75% weeks 9-14

Exam Period Dec.10-14 (scheduled by registrar) - check CAMLINK.

Do not book trips until the final exam schedule is posted by the registrar.

Nov. 8th is the last day to withdraw.

6. Grading System

The following two grading systems are used at Camosun College. This course will use:

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

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+	Minimum level of achievement to use the course as a prerequisite.	3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted.	1
0-49	F	Minimum level has not been achieved.	0

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 E-1.5 at camosun.ca 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
IP	<i>In progress:</i> A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 rd course attempt or at the point of
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,

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

CONDUCT POLICIES

It is the student's responsibility to become familiar with the content of these policies. The policies are available in each School Administration Office, Registration, and on the College web site in the Policy Section.

[Academic Policies and Procedures](#)
[Student Conduct Policy](#)

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Registrar's Office or the College web site at

<http://www.camosun.bc.ca>

MRT PROFESSIONAL CODE OF ETHICS

Camosun College Medical Radiography Technology students are expected to abide by the Canadian Association of Medical Radiation Technologist (CAMRT) Code of Ethics inasmuch as it applies to them in the learning and clinical environments. This information is available on the CAMRT website at:

[CAMRT Code of Ethics](#)

MRT Department Policies & Procedures

Camosun College Medical Radiography Technology students are responsible for knowing all of the MRT Department Policies and must abide by them, including dress codes & lab safety procedures.

<http://camosun.ca/learn/programs/mrt/handbook.pdf>

8. GENERAL INFORMATION

Please be familiar with the policies and procedures as outlined in the MRT Student Handbook.

Plagiarism will not be tolerated in any form and will result in a “0” mark for the assignment.

Please turn OFF cell phones and texting devices when in class/lab. No programmable devices are allowed in exams.

Attendance

You are expected to attend all classes, and be on time. It is your responsibility to acquire *all* information given during a class missed, incl. notes, hand-outs, assignments, changed exam dates etc. Missed exams or quizzes cannot be made up except in case of documented illness (doctor’s note required).

Do not book trips until the exam schedule is finalized.

Attendance/Illness:

Students are expected to attend all class sessions, as missing information presented in class may be detrimental to successful completion of the term. If you must be absent from class, you are asked to email the instructor as a courtesy.

Academic Integrity:

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited and will be handled in accordance with Camosun’s Policies

The Medical Radiography Technology program is committed to promoting competence, professionalism and integrity in our students and developing their core skills to succeed throughout their academic programs and in their careers. The purpose of Academic Honesty Guidelines is to provide clear expectations of appropriate academic conduct and to establish processes for discipline in appropriate circumstances. It is the student’s responsibility to become familiar with the content and the consequences of academic dishonesty. Before you begin your assignments, review the Academic Policies on the Camosun College website:

<http://camosun.ca/learn/becoming/policies.html>



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