



School of Health & Human Services
Medical Radiography Technology

Course Name: Radiographic Anatomy and Physiology 1
Course Number: MRAD 105

COURSE OUTLINE

The Approved Course Description is available on the

web: <http://camosun.ca/learn/calendar/current/web/mrad.html#MRAD105>

Please note:

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

Introduction:

This course parallels and supports topics presented in Level 1, Relational Anatomy and Physiology 1.

The content will be covered in a laboratory environment using digital patient images, and anatomical models. The content will provide an in-depth focus of the entire skeleton (except cranium) and the digestive system. Patient images will include sectional presentation where applicable.

This course will also provide the anatomical information required for Radiographic Procedures 1 lecture, positioning and critique laboratory sessions.

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:	Brent Mekelburg B.Sc. RT (R)(MR)
(b)	Office Hours:	Wed, Thur 1230 – 1330 or by appointment
(c)	Location:	WT212D
(d)	Phone:	250-370 - 3992
(e)	Email:	mekelburgb@camosun.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. Identify anatomical landmarks of the entire skeleton (except cranium) using laboratory models. (F2.1, F2.5, F3.1, F3.5, F4.1, F4.5, F5.1, F5.5, F6.1, F6.5, F7.1, F7.5, F8.1, F8.5, F9.1, F9.5, F10.1, F10.5, F11.1, F11.5, F12.1, F12.5, F13.1, F13.5, F14.1, F14.5, F15.1, F15.5, F16.1, F16.5, F17.1, F17.5, F18.1, F18.5, F19.1, F19.5, F20.1, F20.5, F21.1, F21.5, F22.1, F22.5, F23.1, F23.5, F24.1, F24.5, F25.1, F25.5, F26.1, F26.5, F27.1, F27.5, F28.1, F28.5, F29.1, F29.6, F30.1, F30.6, F31.1, F31.5, F32.1, F32.5, F33.1, F33.5, K1.1)
2. Identify anatomical structures of the entire skeleton (except cranium) as demonstrated with patient images. (F2.1, F2.7, F3.1, F3.7, F4.1, F4.7, F5.1, F5.7, F6.1, F6.7, F7.1, F7.7, F8.1, F8.7, F9.1, F9.7, F10.1, F10.7, F11.1, F11.7, F12.1, F12.7, F13.1, F13.7, F14.1, F14.7, F15.1, F15.7, F16.1, F16.7, F17.1, F17.7, F18.1, F18.7, F19.1, F19.7, F20.1, F20.7, F21.1, F21.7, F22.1, F22.7, F23.1, F23.7, F24.1, F24.7, F25.1, F25.7, F26.1, F26.7, F27.1, F27.7, F28.1, F28.7, F29.1, F29.8, F30.1, F30.8, F31.1, F31.7, F32.1, F32.7, F33.1, F33.7, K1.1)
3. Explain the relationships and movements of skeletal structures and joints. (F2.1, F3.1, F4.1, F5.1, F6.1, F7.1, F8.1, F9.1, F10.1, F11.1, F12.1, F13.1, F14.1, F15.1, F16.1, F17.1, F18.1, F19.1, F20.1, F21.1, F22.1, F23.1, F24.1, F25.1, F26.1, F27.1, F28.1, F29.1, F30.1, F31.1, F32.1, F33.1)
4. Describe the organs of the abdomen, digestive, urinary and biliary systems. (G1.1, G2.1, G3.1, G4.1, G5.1, G6.1, G7.1, I2.1, I3.1, I4.1, K1.1)
5. Identify abdominal, digestive, urinary and biliary structures on patient images. (G1.1, G2.1, G3.1, G4.1, G5.1, G6.1, G7.1, I2.1, I3.1, I4.1, K1.1)
6. Describe the structures of the thorax, lungs and mediastinum, and soft tissue neck. (H2.1, H3.1, K1.1)
7. Identify structures of the thorax, lungs and mediastinum, and soft tissue neck on patient images. (H2.1, H3.1, K1.1)
8. Identify basic anatomical structures of the thorax and abdomen on sectional images. (H2.1, H3.1, K1.1)

[CAMRT Medical Radiography Competency Profile](#)

3. Learning Resources

Required Textbooks:

Ballinger, P.W., & Frank, E.D. (2012). Merrill's Atlas of Radiographic Positions and Radiologic Procedures, Volumes 1, 2 & 3 (12th ed.). Mosby: Elsevier.
Drake, R.L., Vogl, W., & Mitchell, A.W.M. (2010). Gray's Anatomy for Students (2nd ed.). Churchill Livingstone.

Optional Textbooks:

None listed for this course.

Desire-to-Learn (D2L):

D2L – the Camosun College online learning portal contains the remainder of the learning materials for this course. Students are expected to familiarize themselves with the online learning environment and all the features it has to make this course experience enriching. Log on at <https://online.camosun.ca/> to access these materials.

Additional resources may include, but are not limited to: lecture notes, PowerPoint slides, Laboratory Manuals, and hyperlinks. You may prefer to download lectures notes ahead of time (when available) and then write your notes directly onto copies of the slides.

D2L materials **must not** be considered your sole source of information! They merely summarize the main points and provide direction for your learning experiences. You may need to write down additional information in each lecture. Additionally, 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.

Other Materials:

Additional resources may include, but are not limited to: lecture notes, PowerPoint slides, Textbook Companion Workbooks, Laboratory Manuals, and hyperlinks. You may prefer to download lectures notes ahead of time (when available) and then write your notes directly onto copies of the slides.

4. Student Assessment

Attendance	10 %
Assignments	20 %
Quizzes	30 %
Cumulative Final Exam	40 %
TOTAL	100 %

Students must achieve a minimum of 65% to use this course as a prerequisite.

Assessment Details

Assignments will be accessible from within D2L and are posted no later than the first day of the module.

If you fail to turn in a completed assignment on time, you will incur a **2% penalty** on your **final** grade. Exceptions to this rule will be made solely at the discretion of the instructor. In mitigating circumstances, evidence of acute injury, illness, or other emergency situation may be required. However, this does not guarantee that an exception will be made. In such situations, it is highly recommended that students attempt to arrange an extension of an assignment **48 HRS BEFORE** the due date, if possible.

In emergency circumstances, a student may arrange to write a final examination before or after the scheduled time if the student would otherwise be unable to complete the program or course. Exceptions due to emergency circumstances, such as unavoidable employment commitments, health problems, or unavoidable family crises, require the approval of the instructor. Holidays or scheduled flights are not considered to be emergencies. The student may be required to provide verification of the emergency circumstance. (Camosun Academic Policy <http://camosun.ca/learn/calendar/current/pdf/academic-policies.pdf>)

Quizzes are administered on-line via D2L over the weekend, and will be opened on Fridays @1700 and closed on Mondays @0800.

There is **NO midterm** exam for this course.

The final exam will be scheduled by the registrar and is a **cumulative** assay of the entire course.

While lab attendance is **not** mandatory, students receive a mark for attending class. Consider this carefully when choosing to opt out. **Attendance is 10% of the final grade.**

Assignments:

- Late assignments are subject to a **2% penalty** subtracted from a student's total **FINAL GRADE** in the course. (E. g. Three "late" assignments over the course of the term will result in 6% subtracted from the student's final grade *after* all assignments, quizzes, and the final exam are calculated.)

- Failing to turn in a completed assignment results in a ZERO mark for the assignment *in addition* to the late assignment penalty.
- Incomplete assignments are not accepted.
- Unless otherwise stated, all assignments will be submitted via D2L.

5. Course Content and Schedule:

Lecture Days/Times & Room Number:

MRT212C:

Tuesdays 12:30 PM – 13:20 PM

Thursdays 13:30-14:20/Fridays 14:30 PM – 15:20 PM

Students are broken up into four different sections and will rotate each module.

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

Week	Dates	Lecture/Module	Topics, Quizzes, Assignments
1	Sept 3-6	1. Introduction to Radiographic Anatomy & Physiology	<ul style="list-style-type: none"> • No Quiz week 1. • Types of Bone, Pronunciation Guides, and Introduction to Cross Sectional Imaging
2	Sept 9-13	2. Upper Extremity	<ul style="list-style-type: none"> • Module 1 Quiz on Friday, September 13 • Upper Extremities
3	Sept 16-20	2. Upper Extremity, Continued	<ul style="list-style-type: none"> • Module 2 Quiz on Friday, September 20. • Shoulder girdle
4	Sept 23-27	3. Lower Extremity	<ul style="list-style-type: none"> • Module 3 Quiz on Friday, September 27. • Lower Extremities
5	Sept 30-Oct 4	4. Pelvis	<ul style="list-style-type: none"> • Module 4 Quiz on Friday, October 4. • Pelvis
6	Oct 7-11	5. Bony Thorax	<ul style="list-style-type: none"> • Module 5 Quiz on Friday, October 11. • Bony Thorax
7	Oct 15-19 (Oct 14 Thanksgiving)	Case Studies	<ul style="list-style-type: none"> • No Quiz Week 7 • Case Studies Presented in class
8	Oct 21-25	6. Thoracic Viscera	<ul style="list-style-type: none"> • Module 6 Quiz on Friday, October 25. • Thoracic Viscera
9	Oct 28 – Nov 1	7. Vertebral Column	<ul style="list-style-type: none"> • No Quiz week 9. • Vertebral Column
10	Nov 4-8	7. Vertebral Column, Continued	<ul style="list-style-type: none"> • Module 7 Quiz on Friday, November 8. • Vertebral Column, continued
11	Nov 12-15 (Nov 11 Remembrance Day)	8. Body Habitus & Abdomen	<ul style="list-style-type: none"> • Module 8 Quiz on Friday, November 15. • Body Habitus & Abdomen
12	Nov 18-22	9. Gastrointestinal System	<ul style="list-style-type: none"> • Module 9 Quiz on Friday, November 22. • Gastrointestinal System
13	Nov 25-29	10. Biliary System	<ul style="list-style-type: none"> • Module 10 Quiz on Friday, November 29. • Biliary System
14	Dec 2-6	Final Exam Review	<ul style="list-style-type: none"> • NO Quiz week 14. • Cranium Intro
15	Dec 9-13, 16 & 17	FINAL EXAM PERIOD	Cumulative examination of all 10 Modules.

Exam Period Dec.9-13 (scheduled by registrar) - check CAMLINK.

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

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

Suggested Study Time/Study Habits

- Successful students will probably spend 4 – 6 hours outside of class per week studying the content for this course to achieve full marks.
- Map out a homework schedule; include time for reading and learning activities.
- It is valuable to review your notes within 24 hours following each class to help retain the information.
- Study groups are a highly effective way of learning for many students.

Attendance

- Students receive a mark for attending class. Consider this carefully when choosing to opt out. Attendance is 10% of the final grade.
- Students are expected to be **on time**; tardiness disrupts the class. When students are more than 5 minutes late (and/or the classroom door is shut), they cannot enter the classroom until the class break period.
- If you choose not to **or** are unable to attend lecture 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).

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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