

CLASS SYLLABUS



COURSE TITLE: MRAD 117 – Introduction to Procedures
CLASS SECTION: BX01A-D
TERM: F2022McMillenB@camosun.ca; GerowH@camosun.ca;
COURSE CREDITS: 6
DELIVERY METHOD(S): Synchronous

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](#).

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

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

NAME: Dan Andrews, Brent McMillen, Hong Gerow,
EMAIL: AndrewsD@camosun.ca McMillenB@camosun.ca GerowH@camosun.ca;
OFFICE:
HOURS:

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

In this novice course, students examine the basic components of a radiographic procedure, integrating foundational positioning skills for routine radiographic examinations of the body. In the laboratory setting, students will take radiographic images of phantoms (simulated human bodies) and analyze their images, while adhering to federal radiation safety standards. Students who successfully demonstrate critical clinical safety indicators while simulating radiographic procedures will advance to the novice clinical practicum.

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

PREREQUISITE(S): N/A
CO-REQUISITE(S): MRAD 108
PRE/CO-REQUISITE(S): **All of:** C+ in AHLT 104; C+ in AHLT 112; C+ in MRAD 106; C+ in MRAD 119

COURSE DELIVERY

ACTIVITY	HOURS / WEEK	# OF WEEKS	ACTIVITY HOURS
Lecture	7	14	
Lab / Collaborative Learning	9	14	
	TOTAL HOURS		224

Please note this course is split into two portions: Positioning and Image Critique. Each portion has separate lectures, labs and homework.

COURSE LEARNING OUTCOMES

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

- a) Demonstrate correctly positioned radiographic projections on phantoms and laboratory partners for routine radiographic examinations of the body.
- b) Apply the components of a radiographic examination (interpret the request, plan the examination, establish the patient relationship, execute the procedure, and conclude the examination) to low complexity patient scenarios encountered during the first clinical practicum experience.
- c) Discuss the implications of varied patient health conditions (physical and emotional) on routine examinations of the body and the necessity for the Medical Radiation Technologist to appropriately respond.
- d) Apply and convey anatomic knowledge, basic radiographic principles, patient care considerations, and best practices when analyzing images for diagnostic acceptability.

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)

1. List the essential projections for the body. (1.3.1) (1.3.1, RTR.3.1)
2. List proper (technical and positioning) parameters (IR size, SID, CR, collimation, marker location, KVp, breathing instructions, grid, body and part position, other) to obtain an optimal image for essential projections of the body. (1.3.1) (1.1.2, 1.3.1, 4.3.3, RTR.1.5, RTR.1.1, RTR.6.1)
3. Describe the image evaluation criteria for essential projections of the body. (RTR.2.7, D4.2,, RTR.6.5, RTR.6.6, 1.3.1, RTR.6.8) (2.1.3, RTR.6.1, RTR.3.1, RTR.6.2, RTR.6.3)
4. Compare and contrast essential projections of the body. (1.3.1) (2.1.3, RTR.6.1, RTR.3.1, RTR.6.2, RTR.6.3)
5. Identify essential projections of the body using a radiograph. (, D4.2, 1.3.1) (2.1.3, RTR.3.1, RTR.6.2, RTR.6.3)

6. Recognize and correct common positioning errors of the essential projections of the body.
(, RTR.2.7, D4.2,, RTR.6.5, RTR.6.6, 1.3.1, RTR.4.3, RTR.6.8) (RTR.6.1, RTR.3.1, RTR.6.2, RTR.6.3)
7. Recognize and describe patient conditions (i.e. acuity and habitus, etc.) that will require adaptation to the essential projections of the body to obtain an optimal image. (Positioning and technical)
(, 4.1.3, RTR.4.6, RTR.2.3) (2.1.3, 2.1.4, 4.3.3, 4.2.2, 4.2.3, 4.4.1, 4.4.1, RTR.1.1, RTR.6.1, RTR.3.1, E2.3, E2.4)
8. Perform adaptations to the essential projections of the body in a simulated laboratory experience following all/some of the components of a radiographic exam.
(2.1.9, A6.3, 4.1.3, 3.1.5, 2.2.4, B2.12, 2.2.5, RTR.2.2, , D1.4, RTR.4.6, RTR.2.3, D2.4, RTR.6.9, RTR.2.5, RTR.2.7, D3.2, D4.2, , RTR.6.5, RTR.6.6, 1.3.1, RTR.4.3, RTR.4.4, RTR.6.8)(1.1.2, 1.1, 2.1.9, 3.1.4, 1.3.1, 2.2.4, 2.1.3, 2.1.4, 2.1.5, 1.3.4, 3.1, 2.1.6, 2.1.8, 1.1.5, 4.1.1, 4.2.2, 4.1.2, 4.1.2, 4.3.3, 4.2.2, 2.2.1, B3.5, 4.2.3, 4.4.1, 4.4.1, C1.4, RTR.1.5, RTR.1.1, RTR.1.7, C4.1, RTR.2.4, RTR.6.1, RTR.3.1, RTR.6.2, RTR.4.1, E2.3, E2.4, RTR.6.3)
9. Name and Identify relevant anatomical landmarks for the essential projections of the body.
(1.3.1) (2.1.3, RTR.3.1, RTR.6.2)
10. Apply knowledge of relational anatomy for each essential projection of the body.
(RTR.2.7, D4.2, 1.3.1, RTR.4.3, RTR.4.4, RTR.6.8) (RTR.3.1, RTR.6.2)
11. Demonstrate proper positioning for essential projections of the body in a simulated laboratory experience.
(2.1.9, , A6.3, 4.1.3, 3.1.5, 2.2.4, B2.12, 2.2.5, RTR.2.2, D1.4, RTR.4.6, RTR.2.3, D2.4, RTR.6.9, RTR.2.5, RTR.2.7, D3.2, D4.2, RTR.6.5, RTR.6.6, 1.3.1, RTR.4.3, RTR.4.4, RTR.6.8))(1.1.2, 1.1, 2.1.9, 3.1.4, 1.3.1, 2.2.4, 2.1.3, 2.1.4, 2.1.5, 1.3.4, 3.1, 2.1.6, 2.1.8, 1.1.5, 4.1.1, 4.2.2, 4.1.2, 4.1.2, 4.3.3, 4.2.2, 2.2.1, B3.5, 4.2.3, 4.4.1, 4.4.1, C1.4, RTR1.5, RTR.1.1, RTR.1.7, C4.1, RTR.2.4, RTR.6.1, RTR.3.1, RTR.6.2, RTR.4.1, E2.3, E2.4, RTR.6.3)
12. Demonstrate radiation protection (ALARA) during simulated laboratory experiences. (Collimation, lead protection, technical factors).
(1.1.2, 1.1, 2.1.9, 1.3.1, 2.2.4, 2.1.3, 2.1.4, 2.1.5, 1.3.4, 2.1.6, 2.1.8, B3.5, 4.2.3, RTR1.5, RTR.1.1, RTR.1.7, C4.1, RTR.2.4, RTR.6.1)
13. Name and identify image evaluation criteria for essential projections of the body using a radiograph.
(2.1.9, , A6.3, 4.1.3, 3.1.5, 2.2.4, B2.12, 2.2.5, RTR.2.2, D1.4, RTR.4.6, RTR.2.3, D2.4, RTR.6.9, RTR.2.5, RTR.2.7, D3.2, D4.2, , RTR.6.5, RTR.6.6, 1.3.1, RTR.4.3, RTR.4.4, RTR.6.8)(2.1.3, RTR.6.1, RTR.3.1, RTR.6.2,)
14. Identify errors on x- rays of the essential projections of the body and list corrective actions required.
(2.1.9, RTR.2.2, , D1.4, RTR.6.9, RTR.2.5, RTR.2.7, D3.2, D4.2, , RTR.6.5, RTR.6.6, 1.3.1, RTR.6.8) (2.1.3, RTR.6.1, RTR.3.1, RTR.6.2,)
15. Perform x-ray examinations of essential and non-essential projections using all/some of the components of a radiographic exam in a simulated lab experience.
(2.1.9, A6.3, 4.1.3, 3.1.5, 2.2.4, B2.12, 2.2.5, RTR.2.2, , D1.4, RTR.4.6, RTR.2.3, D2.4, RTR.6.9, RTR.2.5, RTR.2.7, D3.2, D4.2, , RTR.6.5, RTR.6.6, 1.3.1, RTR.4.3, RTR.4.4, RTR.6.8))(1.1.2, 1.1, 2.1.9, 3.1.4, 1.3.1, 2.2.4, 2.1.3, 2.1.4, 2.1.5, 1.3.4, 3.1, 2.1.6, 2.1.8, 1.1.5, 4.1.1, 4.2.2, 4.1.2, 4.1.2, 4.3.3, 4.2.2, 2.2.1, B3.5, 4.2.3, 4.4.1, 4.4.1, C1.4, RTR1.5, RTR.1.1, RTR.1.7, C4.1, RTR.2.4, RTR.6.1, RTR.3.1, RTR.6.2, RTR.4.1, E2.3, E2.4, RTR.6.3)

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

a) Required

Lampignano, J.P., & Kendrick, L.E. (2021). *Bontrager's Textbook of Radiographic Positioning and Related Anatomy 10th ed.*. St. Louis, Missouri: Elsevier Mosby.

McQuillen Martensen, K. (2020). *Radiographic Image Analysis (5th ed.)*. St. Louis, Missouri: Elsevier Saunders.

Lampignano, J.P., & Kendrick, L.E. (2020). *Workbook: Textbook of Radiographic Positioning and Related Anatomy 10th ed.*. St. Louis, Missouri: Elsevier Mosby.

Lampignano, J.P., & Kendrick, L.E.(2020). *Bontrager's Handbook of Radiographic Positioning and Techniques (10th ed.)*. St. Louis, Missouri: Elsevier Mosby.

b) Optional (available for purchase or on reserve in library)

McQuillen Martensen, K. (2020). *Workbook for Radiographic Image Analysis (5th ed.)*. St. Louis, Missouri: Elsevier Saunders.

Long, B.W., Rollins, J.H., & Smith, B.J. (2019). *Merrill's Atlas Of Radiographic Positioning & Procedures, Volumes 1,2,3 (14th ed.)*. St. Louis, Missouri: Elsevier Mosby.

c) Other

Desire-to-Learn (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

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.

The following is the schedule for the Positioning portion of MRAD 117. Please see D2L for the schedule for the Image Critique portion.

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
Sept 5-9 Labour Day	Group Agreement/lab intro/PACS-CH.1	See D2L for more notes and course details
Sept 12-16	Ch.1 -Lab- orientation – assignments/tests/workbooks	
Sept 19-23	Ch.4 Upper Finger to Elbow	
Sept 26-30 National Day for Truth and Reconciliation	Ch.5 Upper Humerus to Scapula	
Oct 3-7	Ch.6 Lower Toe to tib/fib	
Oct 10-14 Thanksgiving	Ch.6 Lower knee	
Oct 17-21	Ch.7 Lower – Pelvis/hip/femur	
Oct 24-28	Ch.11 Skull-sinuses, skull, nasal,orbits	
Oct 31- Nov 4	Ch.8 C/T spine	
Nov 7-11 Remembrance Day	MRT Week - Review	Passport to Positioning I
Nov 14-18	Ch.9 Lumbar/sacrum/coccyx	
Nov 21-25	Ch.2 Bony thorax-chest	
Nov 28-Dec 2	Ch.10 Bony thorax-ribs	
Dec 5-9	Ch.3,12,13,14 Abdomen	
Dec 12-16	Final Exam and Comp	Final exam and Passport to Positioning II

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>

STUDENT EVALUATION

DESCRIPTION	WEIGHTING
Workbook	10
Lab <i>Positioning Sheets 11%</i> <i>Ziltron 11%</i>	22
Critique	10
Module Quizzes	27
Midterms	16
Cumulative Final Exam	15
Final Comp	Completion
TOTAL	100%

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](#) policy for more information.
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

POSITIONING

Workbook (10%)

Workbooks will be due any time before the closing time for the module quiz. A late workbook will result in no mark. The workbook chapters assigned will coincide with the chapters your quizzes are based on. This is to encourage you to use the workbook as a study tool. To obtain the mark for your workbook you will be asked to drop box images of 2 complete pages out of the assigned pages.

Lab (22%)

Lab marks will be given for lab assignments and simulation exercises.

- *Positioning Sheets (11%)* – full marks will be given for completed positioning tables.
- *Simulation (11%)* – full marks will be given for completion of modules.

IMAGE CRITIQUE

Although Image Critique is a small percentage of the overall grade for MRAD 117, analyzing an x-ray image demands that students integrate knowledge from other courses within the Medical Radiography program. You must keep up to date with course content, studying approximately 2-3 hours a week. As the material in one week will build on content covered in previous weeks, please ask questions as they arise. Do not let struggles linger as you review material. Please see other students, the course instructor, other course instructors or other resources for support. My office hours are posted but I can usually accommodate meeting on short notice.

Textbook Readings

Material for lectures is sourced from the required Image Analysis Textbook (McQuillen). This book is aimed at those who have background knowledge of radiography. You may find reading the textbook quite heavy and technical at first. As the term progresses, you should begin to understand the context in which the textbook refers. Entire chapters are listed in the course schedule, but only read the body regions related to that week's

lecture. All test questions will be based on lecture content. All lecture content can be referenced from the textbook.

Passport to Image Critique (10%)

Completion of the Passport to Image Critique booklet allows oral practice of image analysis skills, using correct terminology and technical language. Practicing these skills now will prepare you for clinical practicums where critique of all body parts is required for clinical portfolio completion. Image critique also allows development of strategies to recognize patient positioning errors, and how to fix them. Lab time is given to practice and present oral image critiques to the instructor on a one-on-one basis.

JOINT POSITIONING AND IMAGE CRITIQUE

Module Quizzes (27%)

There will be quizzes following the completion of a module. They are used to assess your level of knowledge as it relates to the positioning and critique content from that module. The purpose of these quizzes throughout the term is to keep you up to date on course content, help you identify areas of weakness, celebrate successful integration of knowledge, provide confidence, decrease anxiety, and expose you to the type of questions you can expect on the midterms and final exam.

Midterms (16%)

There will be two cumulative midterms worth 8% each. They are used to assess your level of knowledge as it relates to the positioning and critique content from multiple modules. The purpose of the midterm is to keep you up to date on course content, help you identify areas of weakness, celebrate successful integration of knowledge, provide confidence, decrease anxiety, and expose you to the type of questions you can expect on the final exam.

Final Exam (15%)

The final examination is cumulative and includes material from all modules covered in the MRAD 117 course. This final examination will occur during the regularly scheduled final exam week.

SCHOOL OR DEPARTMENTAL INFORMATION

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

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

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	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its

Support Service	Website
Writing Centre	http://camosun.ca/writing-centre

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. To contact the Office of Student Support: 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.