

CLASS SYLLABUS



COURSE TITLE: MRAD 157 – Advanced Procedures
CLASS SECTION: BX01A-D
TERM: F2021
COURSE CREDITS: 4
DELIVERY METHOD(S): Synchronous

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən 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: Carole Steele and Evan Nielsen
EMAIL: Carole: SteeleC@camosun.bc.ca Evan: NielsenE@camosun.bc.ca
OFFICE: CHW 317 and Virtual
HOURS: By appointment only

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 advanced beginner course, students synthesize academic and clinical concepts to develop adaptive radiography skills. In the laboratory setting, students simulate complex examinations using phantoms and laboratory partners and create radiographic exposure charts. Students explore specialty imaging modalities in preparation for more complex patient encounters during their final two clinical practicums. Students who successfully demonstrate critical clinical safety indicators and problem-solving skills while simulating advanced radiographic procedures will progress to the advanced beginner clinical practicum.

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

PREREQUISITE(S): **All of:** C+ in MRAD 117; COM in MRAD 130
CO-REQUISITE(S): MRAD 148
PRE/CO-REQUISITE(S): **All of:** C+ in MRAD 156; C+ in MRAD 159; C+ in AHLT 165; C+ in MRAD 173

COURSE DELIVERY

ACTIVITY	HOURS / WEEK	# OF WEEKS	ACTIVITY HOURS
Lecture	3	14	
Seminar			
Lab / Collaborative Learning	6	14	
Supervised Field Practice			
Workplace Integrated Learning			
Online			
	TOTAL HOURS		126

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 specialized radiographic examinations of the body requiring adaptations.
- b) apply the components of a radiographic examination to complex patient scenarios encountered during their remaining clinical practicum experiences, including specialty imaging modalities.
- c) develop a systematic approach to adapting radiographic examinations to complex patient scenarios.
- d) apply and convey corrective actions to sub-optimal radiographic images of the body in pursuit of optimal radiographs.

COURSE OBJECTIVES AND MAPPED PROFESSIONAL COMPETENCIES

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

Canadian Association of Medical Radiation Technologists Competency Profile, Radiological Technology (2014)

- A.1.2 Comply with federal and provincial legislation and regulations affecting the practice of medical radiation technology. R
- A.1.5 Practice in a manner that recognizes patient’s legal rights. R
- A.2.1 Present a professional appearance and manner. R
- A.2.2 Interact respectfully with others. R
- A.2.5 Comply with organizational policies and directives. R
- A.2.6 Maintain thorough and complete workplace documentation. R
- A.2.10 Respond professionally to feedback received from others. R
- A.2.11 Provide constructive feedback to others. I
- A.3.2 Use effective oral communication skills. R
- A.3.3 Use effective interpersonal skills. R
- A.4.1 Appraise decision options based on best practice evidence, clinical information, resource implications and other contextual factors. R
- A.4.2 Use professional judgement to reach decisions. R
- A.4.3 Take responsibility for decisions and actions. R
- A.5.1 Recognize the roles of health care professionals commonly encountered in the medical radiation technology workplace. R
- A.5.2 Contribute productively to teamwork and collaborative processes. R
- A.6.1 Prioritize workflow to optimize patient care. R
- A.6.3 Monitor inventory of materials and supplies, and respond. R
- A.7.1 Maintain awareness of factors in the clinical environment that may affect delivery of care, and

- take appropriate action. R
- A.7.2 Participate in activities that support a quality assurance program. I
- B.1.4 Adapt interactions to enhance communication with patient and support persons. R
- B.1.5 Provide complete information about procedures to patient and support persons, and verify understanding. R
- B.1.6 Respond to questions from patient and / or support persons, or direct them to appropriate personnel. R
- B.1.7 Ensure ongoing, informed consent to procedures. R
- B.2.3 Verify accuracy and completeness of pre-procedure documentation. R
- B.2.6 Utilize immobilization devices. I
- B.2.8 Assess and respond to any changes in patient condition. R
- B.2.9 Recognize medical emergencies, and respond. R
- B.2.10 Ensure post-procedure transfer of care. R
- B.2.11 Verify accuracy and completeness of post-procedure documentation. R
- B.3.1 Enhance patient comfort. R
- B.3.2 Review clinical history provided, relative to requested procedure, and address discrepancies. R
- B.3.3 Obtain information from patient or support person. R
- B.3.4 Identify clinically relevant details, and respond. R
- B.3.6 Assess patient for contraindications to procedure and respond. I
- B.3.8 Assist with administration of pharmaceuticals. I
- B.3.9 Adapt procedures based upon patient's physical and cognitive condition. I
- B.3.11 Provide patient interventions as listed in Appendix 1. I
- 1.6 Insert rectal catheters. I
- B.3.12 Advise patient of necessary post-procedure follow-up. I
- C.1.1 Employ routine practices for infection control. I
- C.1.2 Employ transmission-based precautions. R
- C.1.3 Follow standardized procedures for patients with compromised immunity. R
- C.1.4 Use aseptic technique. R
- C.1.5 Use sterile technique. I
- C.1.6 Follow standardized procedures for handling and disposing of sharps, and contaminated and biohazardous materials. R
- C.2.1 Utilize protective equipment. R
- C.3.1 Apply ALARA principle. R
- C.3.3 Use protective devices and apparel for personnel. R
- C.3.4 Implement safe practices to minimize radiation dose to personnel and support persons. R
- C.3.5 Implement safe practices to minimize radiation dose to patients. R
- C.3.6 Monitor personal radiation exposure, and respond. R
- D.1.1 Apply knowledge of radiation physics. R
- D.2.2 Select and optimize parameters for performing a procedure. I
- D.2.3 Utilize common accessory equipment listed in Appendix 5. R
- D.2.4 Activate, monitor, and manage acquisition. R
- D.2.5 Perform post-processing on acquired image data. R
- D.2.7 Evaluate images for the purpose of reject analysis. I
- D.3.2 Assess performance of accessory equipment as listed in Appendix 5, and respond. R
- D.4.1 Apply knowledge of principles affecting image quality. R
- D.4.2 Evaluate diagnostic quality of image, and respond. I
- D.4.4 Verify visibility and accuracy of radiographic markers and annotations. R
- D.4.5 Evaluate image for artifacts, and respond. R
- E.1.1 Apply knowledge of gross anatomy, relational anatomy and physiology related to the imaging of anatomical structures. R

- E.1.2 Differentiate anatomical structures on images. R
- E.1.3 Apply knowledge of pathologies, anomalies and conditions listed in Appendix 3. R
- E.1.4 Apply knowledge of imaging procedures and protocols listed in Appendix 4, in various clinical environments and modalities. I
- E.1.5 Apply knowledge of the effects of pharmaceutical agents listed in Appendix 6, as they relate to procedures. R
- E.2.1 Plan imaging procedures utilizing data available from clinical information, reports and previous diagnostic studies. R
- E.2.2 Position patient for imaging procedures listed in Appendix 4, utilizing anatomical landmarks and relational anatomy. I
- E.2.3 Adapt positioning in response to patient condition and clinical environment. R
- E.2.4 Adapt protocol in response to patient condition and clinical environment. R
- E.2.5 Align imaging system to demonstrate required anatomical structure(s). R
- E.2.6 Distinguish patterns consistent with normal results and normal variants. R
- E.2.7 Recognize patterns consistent with abnormal results and pathologies included in Appendix 3. R
- E.2.9 Evaluate results to determine if further images are required. R

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Required Textbooks:

Bontrager, K.L., & Lampignano, J.P. (2018). *Textbook of Radiographic Positioning and Related Anatomy* (9th ed.). St. Louis, Missouri: Elsevier Mosby.

McQuillen Martensen, K. (2015). *Radiographic Image Analysis* (4th ed.). St. Louis, Missouri: Elsevier Saunders.

Bontrager, K.L., Lampignano, J.P., & Kendrick, L.E. (2018). *Workbook: Textbook of Radiographic Positioning and Related Anatomy* (9th ed.). St. Louis, Missouri: Elsevier Mosby.

Bontrager, K.L., & Lampignano, J.P. (2018). *Bontrager's Handbook of Radiographic Positioning and Techniques* (9th ed.). St. Louis, Missouri: Elsevier Mosby.

Optional Textbooks:

Fauber, T. (2017). *Radiographic Imaging & Exposure* (5th ed.). Elsevier Health Sciences.

Bushong, S.C. (2008). *Radiologic Science for Technologists: Physics, Biology, and Protection* (10th ed.). Elsevier Health Sciences.

Carroll, Q.B., & Bowman, D.(2014). *Adaptive Radiography with Trauma, Image Critique and Critical Thinking*. Delmar, Cengage Learning.

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. YouTube and other media services will also be used throughout the course via public domains.

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: PDF's, 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.

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

Lecture Days/Times & Room Number:

Online – Refer to D2L schedule

Lab Days/Times & Room Number (except Critique – please see separate schedule in D2L):

XRAY LABS CHW 134/135/137

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: Sept 6-10	Course Introduction	See D2L for details
2: Sept 13-17	Mandible and Special Facial Bones	
3: Sept 20-24	Adaptive Radiography: Intro, Adapting Technique, and EI	
4: Sept 27-Oct 1 National Day for Truth and Reconciliation	Adaptive: Chest/Bony Thorax/Abdomen	
5: Oct 4-8	Adaptive: Upper/Lower	
6: Oct 11-15 Thanksgiving	Adaptive: Shoulder/Pelvis/Hip	
7: Oct 18-22	Adaptive: Spine/Skull	
8: Oct 25-29	Fluoroscopy/UGI	
9: Nov 1-5	UGI/Biliary	
10: Nov 8-12 Remembrance Day	LGI	
11: Nov 15-19	Uninary/Venipuncture	

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
12: Nov 22-26	Operating Room	
13: Nov 29-Dec 3	Angio/IV/Diagnostic and Therapeutic Modalities	
14: Dec 6-10	Special Radiographic Procedures/Review	
15: Dec 13-17	EXAM WEEK	

Refer to D2L page for specific details for assignments and Critique portion of course.

Exam Period is scheduled by registrar - check CAMLINK.

Specifics will be updated in D2L when known.

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

DESCRIPTION	WEIGHTING
Quizzes	25%
Lab Competencies	25%
Critique	10%
Assignments	10%
Final Exam	30%
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](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

Quizzes

There will be quizzes following the completion of a module. They are used to assess your level of knowledge as it relates to the 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.

Lab Competencies

Upon completion of the practice activities for that module, students will demonstrate their ongoing Simulation Competency through a combination of scenarios, role playing, phantom simulation & exposure, image production and image critique. Students will be marked on specific components of a radiographic exam and be given instructor feedback.

After the competency is finished students may have a self-reflection to complete regarding that module.

When the self-reflection is complete the student is to drop box their score sheet and self-reflection into the assignments drop box.

It is expected that all labs will be attended by the student as this is the opportunity for the student to practice what they have learnt in lecture and will allow greater success in the competencies and in clinical. Each student is partnered, so any absence affects another students learning. An unexplained/unsanctioned lab absence compromises a lab partner's ability to learn and the absent student may enter a learning contract.

Critique

Critique assessment will be discussed during class time. .

Assignments

Assignments for this course may consist of the workbook, study share, adaptive worksheets, and/or written critique. Each assignment will build on the lecture material, 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.

Final Exam

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

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

- In emergency circumstances, a student may write a test or 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 retrievable from: <http://camosun.ca/learn/calendar/current/pdf/academic-policies.pdf>)

TEST AND EXAMINATION PROCEDURES

There are policies regarding 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 at <http://camosun.ca/learn/school/health-human-services/student-info/index.html>

WRITTEN ASSIGNMENTS

Assignments are due before 2400 hours (midnight) on the assigned day unless otherwise specified. Assignments about patients, residents or clients must be completed using the individual's initials only. Unless otherwise directed by individual course outlines, assignments must be: word processed, double spaced, font meeting APA 7th edition guidelines, with a title page and a reference list. 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 mark for each day late.

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
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.