



**MRAD 157 Advanced Radiographic Procedures**  
**Winter 2021**

**COURSE OUTLINE**

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The course description is available on the web:  
<http://camosun.ca/learn/calendar/current/web/mrad.html#MRAD157>

Camosun College will continue to follow the guidance of the Provincial Health Officer, the B.C. Government and WorkSafeBC, and as such may revise the delivery of courses. Courses with an approved face-to-face component may need to move to online or remote delivery if necessary.

The COVID-19 pandemic has presented many challenges, and Camosun College is committed to helping you safely complete your education. Following guidelines from the Provincial Health Officer, WorkSafe BC and the B.C. Government to ensure the health and wellbeing of students and employees Camosun College is providing you with every possible protection to keep you safe including COVID Training for students and employees, health checks, infection control protocols including sanitization of spaces, PPE and ensuring physical distancing. Please refer to: <http://camosun.ca/covid19/faq/covid-faqs-students.html>

However, if you're at all uncomfortable being on campus, please share your concerns with your Instructor and if needed, alternatives will be discussed.

*Ω Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

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**1. Instructor Information**

- (a) **Instructor**      Brent McMillen
- (b) **Office hours**    [Click or tap here to enter text.](#)
- (c) **Location**        [Click or tap here to enter text.](#)
- (d) **Phone**            [Click or tap here to enter text.](#)    **Alternative:**    [Click or tap here to enter text.](#)
- (e) **E-mail**            [Click or tap here to enter text.](#)
- (f) **Website**         [Click or tap here to enter text.](#)

**2. Course Description & Intended Learning Outcomes**

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.

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.

### 3. Required Materials

#### Required Textbooks:

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

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

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

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

#### Optional Textbooks:

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

Bushong, S.C. (2008). ***Radiologic Science for Technologists: Physics, Biology, and Protection*** (10<sup>th</sup> 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.

#### **4. Course Content and Schedule**

**Lecture Days/Times & Room Number:**

WT 212 C

Procedures

Tuesday 0930-1120

Critique

Friday 1030-1120

**Lab Days/Times & Room Number:**

WT 212A, B, C

X-Ray Labs – 6 hours each week based on designated set

Procedures Section A & B (5 hrs)

Tuesday 230-0420

Wednesday 0130-0320

Friday 1230-0420 (1 hr based on set)

Procedures Section C & D (5 hrs)

Tuesday 1230-0220

Thursday 0330-0520

Friday 1230-0420 (1 hr based on set)

Critique lab – all sections (1 hr)

Friday 0430-0520

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

Week	Dates	Module	Lecture *Critique has a separate lecture that supplements Positioning lecture/labs	Lab	Quizzes and Assignments
1	May 6-10	1	Course Introduction	See D2L for details	See D2L for details
2	May 13-17	2	Mandible and Special Facial Bones		
3	May 20-24 May 20-Victoria Day -no class		Adaptive Radiography Intro, Adapting Technique, and EI		
4	May 27-31	3	Adaptive: Chest/Bony Thorax/Abdomen		
5	June 3-7	4	Adaptive: Upper/Lower		
6	June 10-14	5	Adaptive: Shoulder/Pelvis/Hip		
7	June 17-21 June 20 – Graduation Day- no class	6	Adaptive: Spine/Skull		
8	June 24-28		Fluoroscopy/UGI		
9	July 1-July 5 July 1- in lieu of Canada Day –no class July 2		UGUI/Biliary		
10	July 8-12		LGI		
11	July 15-19		Urinary/Venipuncture		
12	July 22-26	7	Operating Room		
13	July 29-Aug 2	8	Angio/IV/Diagnostic and Therapeutic Modalities		
14	Aug.5-Aug 9 BC day Aug.5 – no classes		Special Radiographic Procedures/Review		
15	August 12-16	<b>EXAM WEEK</b>			

**\*\*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.*

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

## 5. Basis of Student Assessment (Weighting)

Quizzes	20 %
Midterm	15 %
Lab Competencies	15 %
Oral Critique	10 %
Assignments	10 %
Final Exam	30 %
<b>TOTAL</b>	<b>100 %</b>

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

### Assessment Details

#### 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.

#### Midterm

The midterm is cumulative from the start of the term. It is used to assess your level of knowledge as it relates to the content from multiple modules. The purpose of these midterms 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.

#### 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 assigned drop box. This is due on the Sunday after the competency at 2359.

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.

#### Oral Critiques

Oral critiques will build on prior academic and clinical learning related to image analysis.

#### 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 5% deduction in mark for each day late.

## 6. Grading System

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

## 7. Recommended Materials to Assist Students to Succeed Throughout the Course

Click or tap here to enter text.

## 8. College Supports, Services and Policies

### Immediate, Urgent, or Emergency Support



If you or someone you know requires immediate, urgent, or emergency support (e.g., illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts:

<http://camosun.ca/about/mental-health/emergency.html> or  
<http://camosun.ca/services/sexual-violence/get-support.html#urgent>

### College Services

Camosun offers a variety of health and academic support services, including counselling, dental, centre for accessibility, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit Student Services at <http://camosun.ca/services/>

### College Policies

Policies are available on the College website at <http://camosun.ca/about/policies/>

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies.

Education and academic policies include, but are not limited to, [Academic Progress](#), [Admission](#), [Course Withdrawals](#), [Student Appeals](#), Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, and Student Penalties and Fines.

### Student Conduct Policy

There is a [Student Conduct Policy](#). It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College website.

## A. GRADING SYSTEMS

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf#page=2>

The following two grading systems are used at Camosun College:

### 1. 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+		3
60-64	C		2
50-59	D		1
0-49	F		0

### 2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes.

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

## B. 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 at <http://www.camosun.bc.ca/policies/E-1.5.pdf#page=4> 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 death in the family.
IP	<i>In progress</i> : A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.