Course Syllabus

Course title: Computed Tomography Procedures

Class section: MRAD **-** 277 **-** BX01

Term: 2025W

Course credits: 3

Total hours: 75

Delivery method: Blended

Territorial Acknowledgement

Camosun College respectfully acknowledges that our campuses are situated on the territories of the Lk̓ʷəŋən (Songhees and Kosapsum) and WSÁNEĆ peoples. We honour their knowledge and welcome to all students who seek education here.

Instructor Details

Name: Laura McCreight
Email: McCreightL@camosun.ca

Instructor Statement

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.

Instructor Office Hours

Office:	Hours:
CHW 317	Hours: By appointment

Course Description

Course Description:
Students explore routine Computed Tomography (CT) procedures of the body. Students integrate concepts from previous and concurrent courses to support their understanding of clinical applications in CT. Using case study scenarios, students learn the basic components of a CT examination in preparation for their final clinical practicum experience.

Prerequisites:
All of:

- C+ in MRAD 157
- C+ in MRAD 254
- COM in MRAD 260

Pre or Co-requisites:
All of:

- C+ in AHLT 266
- C+ in AHLT 268
- C+ in MRAD 273
- C+ in MRAD 279

Course Learning Outcomes / Objectives

Upon successful completion of this course, the learner will be able to

1. Discuss routine Computed Tomography procedures used to diagnose a variety of patient conditions

2. Analyze Computed Tomography images of the body using knowledge of anatomy, physiology and pathology

3. Compare a variety of applications in Computed Tomography useful to clinical diagnosis

4. Apply the components of a routine Computed Tomography examination in a variety of clinical practice situations

Course Competencies

Canadian Association of Medical Radiation Technologists Competency Profile, Radiological Technology (2019)

Learning Outcome	CAMRT Competencies
Upon successful completion of this course, a learner will be able to:	
1. Discuss routine Computed Tomography procedures used to diagnose a variety of patient conditions.	4.2.1 Review clinical history provided relative to ordered procedure and address discrepancies. 4.3.2 Adapt positioning and/or protocol in response to patient condition and clinical environment. 4.3.5 Recognize and adapt to individual patient needs. 5.2.1 Identify factors in the clinical environment that may impact delivery of care. 6.3.5 Integrate best evidence into practice through appropriate consultation and approval. RTR.3.3 Apply knowledge of imaging procedures and protocols in various clinical environments. RTR.4.1 Plan imaging procedure using relevant clinical data.
2. Analyze Computed Tomography images of the body using knowledge of anatomy, physiology, and pathology.	2.2.2 Identify clinically relevant details and respond. RTR.3.1 Apply knowledge of cross-sectional/relational anatomy and physiology as they relate to clinical procedures. RTR.3.2 Apply knowledge of pathophysiology as it relates to clinical procedures.

	RTR.6.1 Apply knowledge of principles affecting image quality.
	RTR.6.2 Differentiate anatomical structures on images.
	RTR.6.3 Evaluate images for normal results and variants.
	RTR.6.4 Recognize common pathologies, anomalies, and conditions.
3. Compare a variety of applications in Computed Tomography useful to clinical diagnosis.	4.1.3 Use immobilization devices, as appropriate. RTR.2.3 Use accessory equipment. RTR.4.4 Align imaging system to demonstrate required anatomical structure(s). RTR.4.6 Select and optimize imaging parameters. RTR.5.1 Perform venipuncture. RTR.5.5 Prepare contrast agents. RTR.5.6 Apply knowledge of the effects of contrast agents. RTR.5.7 Administer contrast agents via appropriate route. RTR.6.8 Determine if further images are required.
4. Apply the components of a routine Computed Tomography examination in a variety of clinical practice situations.	1.1.2 Comply with federal and provincial legislation and regulations. 1.1.5 Ensure ongoing informed consent to procedures. 2.1.3 Use effective verbal and non-verbal communication skills. 2.1.6 Provide appropriate information about procedures to patients and support persons and verify understanding. 2.2.4 Maintain accurate and complete written and electronic documentation.

	2.2.5 Advise patients of necessary pre- and post-procedure care instructions.
	3.1 Employ effective team processes to coordinate patient care.
	3.1.1 Demonstrate understanding of the roles of healthcare team members.
	4.1.5 Recognize and respond to medical emergencies.
	4.2.3 Assess patient for contraindications to procedure and respond.
	4.4.1 Employ routine practices and additional precautions for infection prevention and control.
	4.4.3 Apply standardized procedures for handling and disposing of sharps, and contaminated and biohazardous materials.
	4.5.3 Provide education regarding management of expected treatment/procedure side effects.
	5.3.1 Prioritize workflow to optimize patient care.
	RTR.1.5 Apply ALARA principle.
	RTR.4.2 Prepare patient.
	RTR.5.8 Recognize and respond to adverse reactions.

Course Materials - Required

Computed Tomography for Technologists - A Comprehensive Text (Romans, Lois E. - 2nd Edition)

Computed Tomography. Physical Principles, Clinical Applications and Quality Control (Seeram, E. - 5th Ed.)

Course Delivery Hours

ACTIVITY	HOURS / WEEK	# OF WEEKS	ACTIVITY HOURS
Lecture	3	14	
Lab	2	14	
		TOTAL HOURS:	70

** Please note that Camosun is standardized on a 15-week semester which, where applicable, includes a final evaluation week. When an evaluation week is not required this may create a discrepancies in total hours.

Course Schedule, Topics, and Associated Preparation / Activity

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
Week 1	Intro to CT Procedures	
Week 2	CT Scan Parameters	
Week 3	CT Contrast & Venipuncture	
Week 4	CT Head	Venipuncture Lab & Quiz #1
Week 5	CT Neck	
Week 6	CT Chest	
Week 7	Reading Week	No Class
Week 8	CT Abdomen – Digestive System	
Week 9	CT Abdomen – Urinary System; CT Pelvis	Quiz #2
Week 10	CT Spine	
Week 11	CT Extremities	
Week 12	Interventional Procedures	
Week 13		Quiz #3
Week 14	Final Exam	
Week 15		

Evaluation of Learning: Weighted

DESCRIPTION	WEIGHTING
Lab Assignments	**20%**
Quizzes	**40%**
Cumulative Final Exam	**40%**
TOTAL:	**100%**

NOTE: MRAD students must achieve at least a ("C+") or COM in all program courses.

Camosun's Grading Systems
https://camosun.ca/registration-records/student-records/camosun-grading-systems

Grade Reviews and Appeals
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

The Centre for Accessible Learning (CAL) is part of Camosun's Student Affairs unit. CAL coordinates academic accommodations and provides related programs and services to students with documented disabilities.

Students who require academic accommodations are expected to request and arrange accommodations through CAL in a timely fashion. While we understand that not all accommodation needs are known to students at the beginning of a course, accommodations cannot be provided unless the proper process is followed through CAL and an accommodation letter has been released to the instructor. Students are responsible for providing CAL with the proper documentation prior to the beginning of a course.

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 can be reviewed on the CAL exams page
https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams

Please consult the CAL webpage for more information:
https://camosun.ca/services/academic-supports/accessible-learning

Artificial Intelligence: A Guide for Students

Generative Artificial Intelligence (GenAI) is an evolving technology that brings potential benefits but also substantial risks. While GenAI tools have the ability to transform how we work and learn, it is essential for the college community to adapt to these changes in a thoughtful and secure way.

When using GenAI tools, students should ensure proper citation and attribution guidelines are followed. This includes acknowledging AI assistance in reports ,presentations, or any external communications. Clear citation helps build trust, ensures ethical use, and reduces the risk of misinformation or copyright issues.

For citation support visit the college's citation style guide.
https://camosun.libguides.com/cite

Artificial Intelligence: A Guide for Students
Visit the following website to learn about AI use in academic settings.
https://camosun.libguides.com/artificialintelligence/home

Course Guidelines & Expectations

MRAD Program Late Policy

All quizzes and assignments are meant to provide an opportunity to deepen your understanding and connection with the learning materials. They must be submitted by dates shown on the course schedule and on D2L. Print the course calendar and check in with it often to make sure you are on track. There may be a penalty of 10% per day applied to assignment marks. The instructor will notify you before this penalty is applied the first time. Thereafter, it will be applied automatically if homework continues to be handed in late. After one week has passed, the quiz/assignment will no longer be accepted and a score of zero will be given.

School or Departmental Information

Students are required to read and are accountable for the College policies (outlined below) and practicum guidelines as described in the School of Health and Human Services (HHS) and program handbooks.

MRAD Program Handbook

Clinical and Practice Placements in HHS
https://camosun.ca/programs-courses/school-health-and-human-services/hhs-programs/practicums

School of Health and Human Services (HHS)
https://camosun.ca/programs-courses/school-health-and-human-services/information-health-and-human-services-students-1#top

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 (likeCOVID-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.

College Policies

Academic Integrity

Students are expected to follow the college's Academic Integrity policy, and be honest and ethical in all aspects of their studies. To help you understand these responsibilities review the online Academic Integrity guide.

The college's Academic Integrity policy and supporting documents detail the process for addressing and resolving matters of academic misconduct.

Academic Accommodations for Students with Disabilities

If you have a documented disability and need accommodations contact the Centre for Accessible Learning (CAL). CAL will arrange the appropriate academic accommodations so you can

participate in all academic activities. Visit the [CAL website](#) for more information

Academic Progress

The [Academic Progress policy](#) details how the college monitors students' academic progress and what steps are taken if a student is at risk of not meeting the college's academic progress standards.

Acceptable Technology Use

The [Acceptable Technology Use](#) policy outlines how students are expected to use college technology resources, this includes using your own devices on the college's network. The use of the college resources in a way that violates a person's right to study in an environment free of discrimination, harassment or sexual violation is prohibited.

Course Withdrawals Policy

For details about course withdrawal see the [Course Withdrawals policy](#). Be aware of the [deadlines for fees, course drop dates, and tuition refunds](#).

Grading Policy

To learn more about grading see the [Grading Policy](#).

Grade Review and Appeals

The process to request a review of grades is outlined in the [Grade Review and Appeals policy](#).

Medical / Compassionate Withdrawals

If you have experienced a serious health or personal issue, you may be eligible for a [medical/compassionate withdrawal](#). The [Medical / Compassionate Withdrawal Request form](#) outlines what is required.

Sexual Violence

If you have experienced sexual violence on or off campus, you can get support from the Office of Student Support. The Office of Student Support is a safe and private place to talk about what supports are available and your options for next steps. Visit the [sexual violence support and education site](#) to learn more or email oss@camosun.ca or phone: 250-370-3046 or 250-370-3841.

Student Misconduct (Non-Academic)

Camosun expects students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Review the [Student Misconduct Policy](#) to understand the college's expectations of conduct.

Looking for other policies? See [Camosun College Policies and Directives](#)

Services and Supports

Services are free and available to all students.

Academic Supports	Enrollment Supports
[Centre for Accessible Learning](#)	[Academic Advising](#)
[English, Math and Science Help Centres](#)	[Financial Aid and Awards](#)
[Library](#)	[Registration](#)
[Writing Centre & Learning Skills](#)	[Tuition and Fees](#)
Health and Wellness	**Applied learning**
[Counseling](#)	
[Fitness and Recreation](#)	[Co-operative Education and Career Services](#)
[Office of Student Support](#)	[Makerspace](#)

The [Centre for Indigenous Education Centre and Community Connections](#) provides cultural and academic supports for Indigenous students.

[Camosun International](#) provides supports to international students.

[The Ombudsperson](#) provides an impartial, independent service to ensure students are treated fairly. The service is a safe place for students to voice and clarify concerns and complaints.

If you have a mental health concern, contact Counselling. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

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 the course content or schedule. When changes are necessary the instructor will give clear and timely notice.