



# Course Syllabus

**Course title:** Vascular Sonography Procedures

**Class section:** MIDS - 237 - BX01B

**Term:** 2025S

**Course credits:** 3

**Total hours:** 75

**Delivery method:** Blended

## **Territorial acknowledgment**

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

## **Instructional hours**

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**Lecture hours:** 3 per W

**Lab hours:** 2 per W

W = Week

T = Term

## Instructor details

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**Name:** Stephan Tuomi

**Email:** TuomiS@camosun.ca

## Course description

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### Course Description:

Students analyze anatomic and hemodynamic relationships in the vascular system while learning to recognize the normal and abnormal sonographic appearances of the aorta and other abdominal vessels, carotid arteries, upper and lower peripheral arteries, upper and lower peripheral veins, and superficial vasculature. Students enhance their understanding of the clinical applications of sonography as a diagnostic investigation tool by incorporating manual maneuvers to examinations to reveal physiologic and anatomic information. Students learn to select appropriate vascular scanning protocols based on patient history, physiologic data, laboratory values, and complementary imaging studies.

### Prerequisites:

All of:

- C+ in MIDS 181
- C+ in MIDS 197

### Pre or Co-requisites:

All of:

- C+ in MIDS 231

## Learning outcomes

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

1. Explain the significance of hemodynamics on the approach to vascular sonography and discuss the selection of protocols, transducers, and impact on resultant sonographic image quality.

2. Explain how the normal and abnormal sonographic appearance of the aorta and other abdominal vessels, carotid arteries, upper and lower peripheral arteries, upper and lower peripheral veins, and superficial vasculature are differentiated across gender, age, and habitus.
3. Define and apply the components of a diagnostic examination to vascular sonography.
4. Discuss the significance of obtaining accurate measurements and reliable technical impressions on long term surveillance, intervention, morbidity, and mortality for vascular pathologies.
5. Perform manual maneuvers, obtain measurements, and collect images necessary to formulate a complete technical impression of required vascular structures within the recommended Sonography Canada guidelines for scheduling and time allotments while scanning simulated patients, live subjects, or laboratory partners.

## Competency mapping

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### Sonography Canada Competencies:

5.2e Correlate results from oximetry and / or auscultation.

#### Appendix B: Abdomen

25 Renal Arteries

26 Renal Veins

31 Hepatic Veins

32 Hepatic Artery

33 Portal Veins

#### Appendix D: Extracranial Arteries and Peripheral Veins

1 Common carotid artery

2 Internal carotid artery

3 External carotid artery

4 Vertebral artery

- 5 Subclavian artery
- 6 Innominate (brachiocephalic) artery
- 7 Jugular vein
- 8 Innominate vein
- 9 Subclavian vein
- 10 Axillary vein
- 11 Brachial vein
- 12 Basilic vein
- 13 Cephalic vein
- 14 Iliac veins
- 15 Common femoral vein
- 16 Femoral vein
- 17 Popliteal vein
- 18 Sapheno-Femoral Junction
- 19 Sapheno-Popliteal Junction
- 20 Deep Calf Veins

#### Appendix F: Vascular

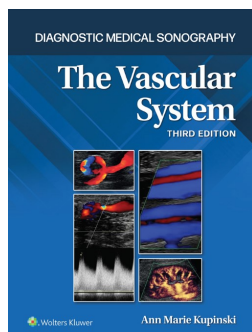
- 1 Aorta
- 2 Celiac trunk
- 3 Hepatic artery
- 4 Superior mesenteric artery
- 5 Superior mesenteric vein
- 6 Inferior mesenteric artery
- 7 Inferior mesenteric vein

- 8 Renal artery
- 9 Renal veins
- 10 Hepatic veins
- 11 Portal veins
- 12 Splenic artery
- 13 Splenic vein
- 14 Inferior vena cava
- 15 Common carotid artery
- 16 Internal carotid artery
- 17 External carotid artery
- 18 Vertebral artery
- 19 Subclavian artery
- 20 Innominate (brachiocephalic) artery
- 21 Intracranial arteries
- 22 Innominate (brachiocephalic) artery
- 23 Subclavian artery
- 24 Axillary artery
- 25 Brachial artery
- 26 Forearm arteries
- 27 Iliac arteries
- 28 Common femoral artery
- 29 Femoral artery
- 30 Popliteal artery
- 31 Calf arteries
- 32 Jugular vein

- 33 Innominate vein
- 34 Subclavian vein
- 35 Axillary vein
- 36 Brachial vein
- 37 Forearm veins
- 38 Basilic vein
- 39 Cephalic vein
- 40 Iliac veins
- 41 Common femoral vein
- 42 Femoral vein
- 43 Popliteal vein
- 44 Calf veins
- 45 Saphenous veins

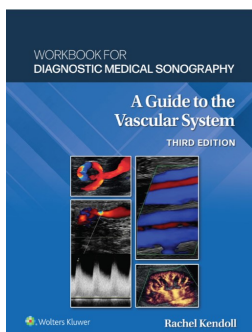
## Course reading materials

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**Title:** The Vascular System  
**Authors:** Kupinski, A. M., Schiffrin, G.  
**Publisher:** WOLTERS KLUWER  
**Publication Date:** 2022  
**Edition:** 3rd Edition  
**Required/Optional:** Required

**Title:** The Vascular System - Workbook for Diagnostic Medical Sonographers  
**Authors:** Kupinski, A. M., Schiffrin, G.  
**Publisher:** WOLTERS KLUWER  
**Publication Date:** 2022  
**Edition:** 3rd Edition



Required/Optional: Required

## Course schedule

Week	Date	Lesson	Readings	Learning Outcomes	Learning Objectives	Sonography Canada Competencies
1	05-May	Introduction	Chapters 2,4,5,6	1,2,3,4,5	1.01, 2.01-2.11	
2	12-May	Cerebrovascular	Chapters 7,8	1,2,3,4,5	3.01-3.16, 4.01-4.16, 5.01-5.06, 6.01-6.11	Appendix D: 1 - 5 Appendix F: 15 - 21
3	19-May	Cerebrovascular	Chapters 9	1,2,3,4,5		Appendix D: 1 - 5 Appendix F: 15 - 22
4	26-May	ExtremityVessels	Chapters 17	1,2,3,4,5		Appendix D: 6 - 20 Appendix F: 23 - 45
5	02-Jun	ExtremityVessels	Chapters 18,20	1,2,3,4,5	18.01, 19.01-19.11, 20.01-20.08, 21.01-21.05, 22.01-22.12, 23.01-23.07, 24.01-24.09, 25.01-25.06, 26.01-26.07, 27.01-27.05, 28.01-28.12, 30.01-30.02	Appendix D: 6 - 20 Appendix F: 23 - 45
6	09-Jun	ExtremityVessels	Chapters 12,13,14,16	1,2,3,4,5		Appendix D: 6 - 20 Appendix F: 23 - 45
7	16-Jun	Abdomen	Chapters 23	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
8	23-Jun	Abdomen	MIDTERM	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
9	30-Jun	Abdomen	Chapters 24	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
10	07-Jul	Abdomen	Chapters 25	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
11	14-Jul	Abdomen	Chapters 26	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
12	21-Jul	Abdomen	Chapters 27	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
13	28-Jul	Abdomen	Chapters 28	1,2,3,4,5		Appendix B: 25,26,31,32,33 Appendix F: 1 - 14
14	04-Aug	All Topics	Course REVIEW	1,2,3,4,5		
15	Exam Week					

## Assessment and evaluation

Type	Description	Weight
Assignment	Workbook Assignments (x4)	2

Type	Description	Weight
Assignment	Asynchronous Review (x2)	2
Exams (Midterms and finals)	Quizzes (x2)	10
Exams (Midterms and finals)	Midterm (x1)	20
Exams (Midterms and finals)	Final Exam (x1)	30
Practical Assessment	Lab Assessments (x5)	36

## Course guidelines and expectations

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### Program Handbook

Please refer to the Diagnostic Medical Sonography (SONO) Program Handbook for guidelines on classroom and lab etiquette, as well as expectations for professional behavior. ( <https://camosun.ca/hshs/student-info/hshs-student-handbook/diagnostic-medical-sonography-sono-program-handbook> )

### Asynchronous Materials

Except for Week 1, asynchronous materials should be accessed prior to the Monday lectures. This will give students the opportunity to ask questions in class that may have arisen from the asynchronous materials.

### Skills Assessments

Students must pass all Critical Criteria in the Professional Performance section and achieve at least 65% in the Interrogation and Image Quality section and its sub-sections for each Skills Assessment.

Please note that final Skills Assessments are not eligible for repeat assessment.

### Late Policy

Late assignments will not be accepted, and the student will receive a score of zero (0%) for the late assignment. Should there be a significant extenuating circumstance, the student MUST contact the



instructor prior to the assignment due date, giving as much notice as possible.

### **Use of Artificial Intelligence (AI)**

To meet program learning outcomes and course objectives, the use of generated artificial intelligence (AI) tools is prohibited unless explicitly stated in the course syllabus. Unauthorized use of AI tools will be considered a violation of Camosun College's Academic Integrity Policy, and students may face sanctions as outlined in the policy.

### **Final Examination & Final Grade**

Do not book travel or flights until the final examination schedule has been published by the registrar. Students must achieve a minimum of 65% in order to pass the course and to use this course as a pre-requisite or co-requisite.

## **College policies and student responsibilities**

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The college expects students to be responsible, respectful members of the college community. Responsible students meet expectations about attendance, assignments, deadlines, and appointments. They become familiar with academic policies and regulations, and their rights and responsibilities.

College policies are available online at the [Policies and Directives](#) page. Academic regulations are detailed on the [Academic Policies and Procedures for Students](#) page.

Policies all students should be familiar with include the [Academic Integrity Policy](#). This policy expects students to be honest and ethical in all aspects of their studies. It defines plagiarism, cheating, and other forms of academic dishonesty. Infractions of this policy can result in loss of marks or a failing grade. To learn more about plagiarism and cheating, including the use of artificial intelligence, review the [Academic Integrity Guide](#).

The [Academic Accommodations for Students with Disabilities Policy](#) defines how Camosun provides appropriate and reasonable academic accommodations. The Centre for Accessible Learning (CAL) coordinates academic accommodations. Students requiring academic accommodations should request and arrange accommodations through CAL. Contact CAL at least one month before classes start to ensure accommodations can be put in place in time. Accommodations for quizzes, tests, and exams must follow CAL's booking procedures and deadlines. More information is available on the [CAL website](#).

Students must meet the grading and promotion standards to progress academically. More information is available in the [Grading Policy](#).

The college uses two grading systems. A course will either use the standard letter grade system (A+ to F) or a competency-based approach with grades of complete, completed with distinction or not completed. Visit the [Grades/GPA page](#) for more information.

Students must meet the college's academic progress standards to continue their studies. A student is not meeting the standards of progress when a GPA falls below 2.0. The college offers academic supports for students at risk of not progressing. The [Academic Progress Policy](#) provides more details.

If you have a concern about a grade, contact your instructor as soon as possible. The process to request a review of grades is outlined in the [Grade Review and Appeals Policy](#).

The [Course Withdrawals Policy](#) outlines the college's requirements for withdrawing from a course. Consult the [current schedule](#) of deadlines for fees, course drop dates, and tuition refunds.

If students experience a serious health or personal issue, they may be eligible for a [medical or compassionate withdrawal](#). The [Medical/Compassionate Withdrawal Request Form](#) outlines what is required.

The [Acceptable Technology Use](#) policy ensures the use of the college network and computers contribute to a safe learning environment. This policy also applies to the use of personal devices with the college network.

Students experiencing sexual violence can get support from the Office of Student Support. This Office of Student support is a safe and private place to discuss supports and options. More information is available on the [sexual violence support and education site](#). Students can email [oss@camosun.ca](mailto:oss@camosun.ca) or phone 250-370-3046 or 250-370-3841.

The [Student Misconduct Policy](#) outlines the college's expectations of conduct. Students should behave to contribute to a positive, supportive, and safe learning environment.

The [Ombudsperson](#) provides an impartial, independent service to help students understand college policies.

## Services for students

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Successful students seek help and access college services. These services are recommended to make the most of your time at college.

### Services for Academic Success

- [Career Lab](#): Connects students with work-integrated learning experiences, including co-op placements and career fairs.
- [English, Math, and Science Help Centres](#): Get one-on-one help with homework.

- [Library](#): Get help with research, borrow materials, and access e-journals and e-books. Libraries at both campuses provide computers, individual and group study spaces.
- [Makerspace](#): A place to innovate, collaborate, and learn new skills and technology in a fun, dynamic, inclusive environment.
- [Writing Centre & Learning Skills](#): Get assistance with academic writing or meet with a learning skills specialist for help with time management, preparing for exams, and study skills.

#### Enrolment, Registration, and Records

- [Academic Advising](#): Talk to an academic advisor for help with program planning.
- [Financial Aid and Awards](#): Learn about student loans, bursaries, awards, and scholarships.
- [Registration](#): Get information about Camosun systems, including myCamosun, and college policies and procedures.
- [Student Records](#): Get verification of enrolment to access funding, request a transcript, or credential.

#### Wellness and Cultural Supports

- [Counselling](#): It's normal to feel overwhelmed or unsure of how to deal with life's challenges. The college's team of professional counsellors are available to support you to stay healthy. Counselling is free and available on both campuses. If you need urgent support after-hours, contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.
- [Centre for Indigenous Education and Community Connections](#): Provides cultural and academic supports for Indigenous students.
- [Camosun International](#): Provides cultural and academic supports for international students.
- [Fitness and Recreation](#): Free fitness centres are located at both campuses.

For a complete list of college services, see the [Student Services](#) page.

## Changes to this syllabus

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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.