

Bergen Community College
Division of Health Professions
Department of Diagnostic Medical Sonography
DMS-229 Vascular Imaging

Course Information

Semester and Year:
Course and Section Number:
Meeting Times and Locations:
Instructor:
Office Location:
Phone:
Departmental Secretary:
Office Hours:
Email Address:

Course Description

This course introduces the use of diagnostic imaging with the use of Doppler for examining the vasculature of the human body. In this class the student will learn about diseases that affect the circulatory system. The course provides a history of diagnosis and treatment of vascular conditions. In addition, the course gives the student an awareness of alternative diagnostic tools used in conjunction with ultrasound. The student will learn how to perform vascular tests commonly performed in vascular laboratories and develop an awareness of tests that are routinely performed.

2 Credits

1 Lecture Hour
3 Lab Hours

Prerequisites: [BIO-209](#); [DMS-201](#); [DMS-213](#)

Corequisites: [DMS-220](#); [DMS-214](#)

Student Learning Outcomes: As a result of meeting the requirements in this course, students will be able to:

1. Identify and describe anatomy and physiology of the cardiovascular system.
2. Explain alternative vascular diagnostic tools used in conjunction with ultrasound.
3. Demonstrate the technical skills needed to perform various vascular exams in preparation for vascular clinical practicum.
4. Evaluate the sonographic appearance of vascular pathology, utilizing diagnostic criteria to interpret disease states.

Means of Assessment: Students will be assessed in the following methods:

Midterm and final examinations, quizzes, lab preparations and assignments, and scanning protocols: Carotid and Lower Extremity Venous

Course Content

This course explores the use of diagnostic imaging and the use of Doppler for examining the vasculature of the human body. Students learn about diseases that affect the circulatory system. A basis for the interpretation, diagnosis, and treatment of vascular conditions is presented. In addition, alternative diagnostic tools that are used in conjunction with ultrasound are introduced. The student will learn how to perform vascular tests commonly performed in vascular laboratories and develop an awareness of tests that are routinely performed.

Course Texts and/or Other Study Materials

Techniques in Noninvasive Vascular Diagnosis by R.J. Daigle (4th edition, 2014). ISBN: 9780989932912

Grading Policy

Lab assignments will include writing exam reports and participating in graded online discussions. Guidelines for these assignments will be determined by the instructor. The midterm and final are cumulative.

FINAL GRADE CALCULATION

Quiz average	20%
Mid-term Exam	20%
Final Exam	20%
Lab test average	30%
Lab scanning	10%

NUMERICAL GRADE CALCULATION

92 to 100	A
88 to 91.9	B+
83 to 87.9	B
79 to 82.9	C+
75 to 78.9	C
0 to 74.9	F

Academic Integrity Policy and Attendance Policy

Academic Integrity

Academic dishonesty is a serious violation of BCC policy and personal ethics and will be treated as such if the reason for suspicion should arise. Students should be careful to avoid plagiarism, falsification, and compliance. Academic integrity is vital to an academic community and for fair evaluation of student assessments. All assessments submitted must be your own, completed in accordance with the college's academic policies and the student code of conduct. You may not engage in unauthorized collaboration or make use of any artificial intelligence (AI) composition systems. Academic dishonesty also includes cheating on examinations. Refer to the [BCC student code of conduct](#), student handbook for additional information, and the statement on plagiarism (<https://catalog.bergen.edu/content.php?catoid=4&navoid=163#academic-dishonesty>).

BCC Attendance Policy

All students are expected to attend and be punctual for every scheduled meeting of each course in which the student is registered. Attendance and lateness policies and sanctions are to be determined by the director for each section of each course. These are in writing in the Policy and Procedure Student Handbook and in each course outline.

Other College, Divisional, and/or Departmental Policy Statements

Accommodations for Disabilities

Bergen community college aims to create inclusive learning environments where all students have maximum opportunities for success. Any student who feels he or she may need an accommodation based on a disability should contact the Office of Special Services.

Americans with Disabilities Act: Students who require accommodations by the Americans with Disabilities Act [ADA] can request support services from "The Office of Specialized Services of Bergen Community College] 201-612-5270/5269 or via email at ossinfo@bergen.edu.

Mental Health and Well Being

Mental Health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. Bergen Community College has licensed personal counselors available to assist you with addressing these and other concerns you may be experiencing.

You can learn about the confidential mental health services available on campus via the Health and Wellness Center at www.bergen.edu/personal_counseling.

**Student and Facility Support Services
Available Online and On-Campus Resources**

[Library- https://bergen.edu/library/](https://bergen.edu/library/)

[Academic support https://bergen.edu/academics/pathway-scholars-program/academic-support](https://bergen.edu/academics/pathway-scholars-program/academic-support)

[The Writing center and Tutoring Center- L-125 https://bergen.edu/tutoring/writing_center/](https://bergen.edu/tutoring/writing_center/)
[OWL\(Online Writing Lab\) http://www.owl.english.perdue](http://www.owl.english.perdue)

[Free Time Computer Labs https://bergen.edu/technology_assistance/computer_lab_availability/](https://bergen.edu/technology_assistance/computer_lab_availability/)

[The Center for student A-118 \(Academic, Career, International, and Transfer Counselors\) https://bergen.edu/center-for-student-success/](https://bergen.edu/center-for-student-success/)

[Personal counseling HS-100 https://bergen.edu/health-wellness-and-personal-counseling/personalcounseling/](https://bergen.edu/health-wellness-and-personal-counseling/personalcounseling/)

Sample Course Outline

Week	Topic/Activity	Assignments/Events
1	Lecture: Carotids, color duplex scanning Chapters 2, 4 Lab: Review Carotids from last semester	
2	Lecture: Carotids, pathology Chapters 2, 3, 4 Lab: Differentiating ICA vs ECA, following ICA	
3	Lecture: Intracranial evaluation Chapter 15 Lab: Practice Carotid Competency	
4	Lecture: Arterial imaging, lower extremity Chapters 9, 11 Lab: Practice Carotid Competency	
5	Lecture: Arterial physiology testing Chapter 10 Lab: Carotid Competency	
6	Lecture: Arterial imaging, upper extremity Chapter 13 Lab: Introduction to Venous Imaging / Thigh	
7	Lecture: Midterm Lab: Venous imaging of the popliteal fossa	Midterm
8	Lecture: Venous, lower extremity, part 1 Chapters 5, 6, 7 Lab: Venous imaging of the calf	
9	Lecture: Venous, LEV part 2, UEV Chapter 8 Lab: Practice venous imaging	
10	Lecture: Mapping, Stents, and Grafts Chapters 12, 14 Lab: Practice venous imaging	
11	Lecture: Abdominal Imaging Chapter 16 Lab: Practice venous imaging	

12	Lecture: Renal Imaging Chapter 16 Lab: Practice venous imaging	
13	Lecture: Statistics, Quality Assurance Chapter 17 Lab: LEV Competency	
14	Lecture: Final Exam Lab: Upper extremity scanning	Final Exam
15	Lecture: RVT exam info Lab: Upper extremity scanning	

Note to Students: This Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class.