

Jackson Community College
DMS 107- Vascular Sonographic Orientation
Course Syllabus
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Credits: 3

Course description

This course prepares sonography students for their clinical work-site experiences. Students will explore interpersonal relationship skills, ethical decision-making, and a review of clinical technical skills as they relate to the on-site work experience. Students will learn basic cross sectional anatomy as related to beginning sonographic scanning of the arterial and venous systems, of the extremities, neck and abdomen.

Course Objectives

Completion of DMS 107 will meet requirements for entry into DMS 161.

Objectives/Competencies
Explain the history of Ultrasound
Explain chronic and acute atherosclerotic disease
Define and recognize imaging scan planes and sonographic terminology
Explain proper transducer manipulation techniques and associated terminology.
Discuss and explain universal precautions
Label sonographic landmarks and explain screen orientation related to imaging planes and anatomy.
Explain and Discuss Muscular Skeletal Injuries (MSI) associated with the career of sonography
Explain proper patient interview techniques associated with exam order
Label upper extremity and lower extremity arterial vasculature anatomy
Explain arterial testing protocols and techniques –ankle/brachial index (ABI)
Label carotid artery vasculature
Describe Carotid Duplex Imaging testing protocols and techniques
Explain carotid duplex imaging indications
Describe pathology associated with the carotid artery vessels
Describe peripheral arterial disease
Interpret normal arterial Doppler Sounds
Label and describe Doppler waveform patterns of the lower extremity
Label and describe Pulse Volume Recording waveform patterns of the lower extremity
Interpret and calculate ankle/brachial index (ABI)
Interpret and calculate toe/brachial index (TBI)

Explain Picture Archive Communication Systems (PACS)
Label aorta and visceral branches
Describe exam protocol for abdominal aortic aneurysm
Define sonographic legal terms
Explain Health Insurance Portability & Accountability Act (HIPPA)
Explain medical law and ethics
Explain the roles and responsibilities of a vascular sonographer
Describe proper techniques for charting medical records
Discuss proper patient interactions and relationships
Describe sterile and aseptic techniques
Discuss proper communication methods
Explain items for optimal patient care

Measurement of Objective

- Student must achieve a passing score of 75% on the module quizzes and exams. Questions are conceptual based to measure knowledge, critical thinking and problem solving.

Associate Degree Outcomes (ADOs)

The course goals and objectives incorporate specific Associate Degree Outcomes (ADOs) established by the JC Board of Trustees, administration, and faculty. These goals are in concert with four-year colleges, universities, and reflect input from the professional communities we serve. ADOs guarantee students achieve goals necessary for graduation credit, transferability, and professional skills needed in many certification programs.

ADO 7 Critical Thinking at the Developing Level: Incorporates new knowledge with old, converts complex concepts into useful personal language and solves new problems in new contexts.

Student Responsibilities:

Students are expected to participate and be prepared for each session. It is presumed by the facilitator that assignment, including reading, will be completed on time prior to material on subjects being presented; such preparations allows the student the best learning opportunities to understand material presented and pose questions in areas requiring clarity. The pace of this course makes it very difficult for a student to catch up once a student falls behind.

It is highly suggested by the instructor that students utilize as many references as possible to enhance their learning and understanding.

Instructor's Responsibilities:

The Instructor's responsibilities include facilitate learning by providing and explaining the necessary materials for each student to understand the assignments and develop course goals, objectives, and performance objectives to a near mastery level. See JCC DMS Handbook for a

listing of these goals, course objectives and performance objectives. Knowledge gained from this course should aid students in their clinical experiences.

Required Text:

Donald Ridgway, Introduction to Vascular Scanning , A Guide for the Complete Beginner, 4th Edition, Davis Publishing, 2014 ISBN 0-941022-83-8

Simitics- Interactive software. You will need to purchase the access code from JC bookstore.

Learn by doing - online simulation is an effective, low-cost way of acquiring, perfecting and testing skills

Learners get instant feedback on skills and quickly identify what they need to work on

Track learning progress and study hours using our simple reporting menu

Course Method

This class will begin 7am Monday and end Sunday at 11:00pm. ALL module tasks for the week are expected to be completed by 11:00pm Sunday. This course is designed to allow you to work at your own pace, throughout the week. You can access class any time of the day or night.

Class Discussion:

Because this class is on-line, group discussions are a great way to share experiences. It is expected that the student will sign in and engage classmates in class at least **twice weekly**. (more is encouraged) Also by participating in-group discussion the student will learn both computer technology, researching internet, and additional tools to aid in successful on-line learning.

The nature of online education is different than traditional classroom participation. The students is expected to access each week's materials several times, even daily. In this way, traditional classroom discussion is simulated and even enhanced. The degree and amount of student participation (i.e. "attendance") will contribute to the student's earned grade.

Your discussions will be graded on this scale:

- Comments further the discussion and demonstrate a knowledge of the assigned readings, as well as display critical thinking: 20 points
- Comments further the discussion and display critical thinking: 19-18 points
- Less than required number of comments; comments further the discussion: 17-16 points
- Less than required number of comments; comments brief or of the "I agree" kind: 15-0 point

Module~ Chapter Quizzes: There will *be* a 20-40-question quiz for each chapter. No make-up quizzes will be allowed. If, a student misses a quiz a zero will be issued for that quiz.

All quizzes are timed, you are given between 20-40 minutes (depending on the number of questions on the quiz) to complete the unit quizzes. This was put in place so you don't use your books or lessons to finish them. If you know the material well enough, the allotted time should be more than enough.

You may occasionally come across a question in which there is more than one correct answer and the computer may mark your answer wrong, this is why I urge you to look over you exam after the computer has graded it and e-mail me with any questions you may have. I will be happy to adjust your score if needed or give explanation for incorrect answers.

You are allowed **one reset quiz** for getting "booted off the internet." Once I reset a quiz for you your name goes on a list and you are not allowed any more resets. I will not reset the mid-term. If you think you may have problems with your internet, I suggest you fix them before taking your quizzes or take your quizzes at a more stable connection (a library, a college, or a computer with cable connection). If you have call waiting and you are using a dial-up connection you may want to take it off for the semester or take the quizzes when you are least likely to get calls that will interrupt the connection.

Assignments:

Patient Information Brochure/Booklet:

You need to design some type of patient information brochure about vascular technology. Model this after the type of information you would find in a reception area. Describe what the patient should expect, types of studies, who performs the study...etc. I think you get the idea. You can set this up anyway you want...as a booklet, brochure, flyer.

You may choose one specific topic (venous disease), or testing in general.

Patient Information Brochure/Booklet Rubric

Assessment	Value
Accuracy	10
Neatness/Organization	5
References	10
Quality of Information/Did the patient learn something?	25

You may upload your scanned brochure as a PDF file and upload to class.

Student Biography

The purpose is to get to know each other. Furthermore, the information you prepare will be included in the packet of information introducing you to your clinical site.

For more in-depth instructions go to assignments and click on the biography resource.

Vocabulary

You are responsible for finding the definitions for commonly used ultrasound terms. Use resources such as students, books, the internet, class textbooks etc.. Please remember that I'm looking for the ultrasound or vascular definitions...not the everyday variety. Please do not use a WIKI as resource.

Simitcs Modules

Click on this link to transport to Smitcis Student Login: <http://www.simitcs.com/login/>

To satisfactorily complete this module you must earn a minimum of 80% on both the practice test and test. Students who earn 80% on both tests will receive a certificate and earn 100% for this assignment.

The certificate can be downloaded as a PDF file and upload to this location. The modules are rigorous and some may take several hours to work through. Do not wait to begin working!

8 Week Schedule

Module 1	Orientation, History of Ultrasound, Scan Planes and Sonography Description, Screen Orientation and Instrumentation~ DUE DATE 9/13 @ 11pm EST <i>Reading Assignment:</i> Read and Study: Ridgway , Chapter 1, Chapter 2, Chapter 4 <i>Module Tasks:</i> Introduction Forum, Biography Essay, Module quiz,
Module 2	Universal Precautions, History Taking, MSI, Common Studies ~ DUE DATE 9/20 @ 11pm EST <i>Reading Assignment:</i> Read and Study: Ridgway , Chapter 5 and Chapter 6 <i>Module Task:</i> , Module Quiz, vocabulary terms , Simitcs Module-Basic Ultrasound Techniques
Module 3	Lower Extremity and Upper Extremity Arterial Anatomy & Arterial Testing, Doppler Ultrasound ~ DUE DATE 9/27 @11pm EST <i>Reading Assignment:</i> Read and study: Ridgway , Chapter 9, Chapter 10 pg 289-

	<p>290, Chapter 12 pg 377-382</p> <p><i>Module Tasks:</i> Discussion Topic, Module Quiz, Simitcs Module-Lower Limb Arteries</p>
Module 4	<p>Carotid Anatomy and Duplex Imaging~ DUE DATE 10/4@11pm EST</p> <p><i>Reading Assignment:</i> Read and Study Ridgway: Chapter 7, Chapter 12 pg 361-373, Chapter 15pg.462-466,</p> <p><i>Module Tasks:</i> ,Module Quiz; Simitcs Module-Carotid, Subclavian, Vertebral Vessels</p>
Module 5	<p>Abdominal Anatomy and Duplex Imaging, Evaluation for AAA~ DUE DATE 10/11 @11pm EST</p> <p><i>Reading Assignment:</i> Read and Study Ridgway: Chapter 11, Chapter 12 pg 382</p> <p><i>Module Tasks:</i> Discussion Topic, Module Quiz; Simitcs Module-Abdominal Vessels</p>
Module 6	<p>Law and Ethics of Vascular Ultrasonography~ DUE DATE 10/18 @11pm EST</p> <p><i>Reading Assignment:</i> Ridgway: Optional Reading Chapter 16 and Chapter 17</p> <p><i>Module Tasks:</i> , Module quiz, Patient brochure,</p>
Module 7	<p>Class to Clinical~ DUE DATE 10/25 @11pm EST</p> <p><i>Reading Assignment:</i> No New Reading ,</p> <p><i>Module Tasks:</i> , Discussion Topic, Module Quiz, Final Exam</p>

Grading Scale:

****Students must maintain a 2.0 in each DMS class to remain in the vascular sonography program****

Assessment Element	Points	Quantity	Total
Simitics Modules	50	4	200
Student Biography	15	1	15
Patient Brochure	15	1	15
Vocabulary	35	1	35
Class Discussion	20	4	80
Quizzes	20-40	7	160
Final Exam	300	1	350
Total Points			855

95-100%	4.0
90 - 94%	3.5
85 - 89%	3.0
80 - 84%	2.5
75 - 79%	2.0
70 - 74%	1.5
65 - 69%	1.0
60 - 64%	0.5

What are HQV grades? HQV grades are mandated by the federal government to be entered on each student throughout the semester. These grades verify or confirm that a student is participating in class or not participating. If a student does not access class for a period greater than 7 class days a H will be recorded. If a student does not access class for a period greater than 14 class days, a Q will be recorded. **Once a student is “Q’d” I will not allow re-admission into class.**

H= Help

Q= Quit

V-Verify