Jackson College

DMS 107 Vascular Sonographic Orientation

Course Syllabus

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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.

Measurement Of Objective

- Student must achieve a passing score of 85% on the module quizzes and exams. Questions are conceptual based to measure knowledge, critical thinking and problem solving.
- Students will not gain access to the next module until module score reaches a minimum score of 85%. Students who not reach desired score on module quiz will complete a concept challenge case study.

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

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

SIMTICS- 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

The following plan is a guideline only. You may move through the week at your own pace. Modules are designed to be completed Sunday @ 11 of each week, but we recognize some students may learn at different rates, therefore, you may work ahead or spend extra time on a concept.

A student is expected to sign into class a minimum of twice weekly. Failure to sign into class twice weekly will result in the loss of 10% from the final grade.

Concept Challenges

The concept challenge activity will be designed to engage the student in real world clinical scenarios. They will follow consecutive connecting modules and will challenge critical thinking and problem solving. Students who need additional support will work with the instructor and added concept challenges.

Class Discussion(Synchronized and Asynchronized-some via ZOOM meeting)

Because this class is on-line, group discussions is 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 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 are 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: 10 points
• Comments further the discussion and display critical thinking: 9-8 points
• Less than required number of comments; comments further the discussion: 7-6 points
• Less than required number of comments; comments brief or of the "I agree" kind: 5-0 points

Module~ Chapter Quizzes These are timed exams, students are allowed 35 secs per question. However, a proctor will NOT be required. Students will have unlimited attempts to earn 85% on the module quiz. Once the minimum score is achieved the next module lessons will be available. The final exam is not proctored but is timed at 35 sec per question. The timed exams are in place to encourage honest testing practices and a true assessment of gained knowledge.

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.

Module Assessments: Adaptive Release

Module assessments (quizzes, discussions, case challenges, but not limited too) are assigned each week and are required to be completed before the next module will open. Instructions are located within the assignment links. The modules are designed to allow each student a personalized learning experience with opportunity to learn the module goals in more or less time as needed.

Open lab sessions maybe used to complete assignments.

Concept Challenge Assignments maybe required if student does not reach 85% on module assessments.

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.

SIMTICS Modules

Click on this link to transport to SIMTICS Student Login: http://www.simtics.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- Modules 1-4 DUE no later than October 4 @ 11pm EST /Module 5-8 DUE no later than October 25@11pm EST

Module 1	**Orientation, History of Ultrasound, Scan Planes and Sonography Description, Screen Orientation and Instrumentation~** *Reading Assignment:* Read and Study: **Ridgway**, Chapter 1, Chapter 2, Chapter 4 *Module Tasks*: Introduction Forum, Biography Essay, Module quiz,
Module 2	**Universal Precautions, History Taking, MSI, Common Studies** *Reading Assignment:* Read and Study: **Ridgway**, Chapter 5 and Chapter 6 *Module Task*:, Module Quiz, vocabulary terms , SIMTICS Module-Basic Ultrasound Techniques
Module 3	**Lower Extremity and Upper Extremity Arterial Anatomy & Arterial Testing, Doppler Ultrasound ~** *Reading Assignment: R*ead and study: **Ridgway**, Chapter 9, Chapter 10 pg 289-290, Chapter 12 pg 377-382 *Module Tasks*: Discussion Topic, Module Quiz, SIMTICS Module-Lower Limb Arteries
Module 4	**Carotid Anatomy and Duplex Imaging** *Reading Assignment:* Read and Study **Ridgway**: Chapter 7, Chapter 12 pg 361-373, Chapter 15pg.462-466, *Module Tasks:* ,Module Quiz; SIMTICS Module-Carotid, Subclavian, Vertebral Vessels
Module 5	**Abdominal Anatomy and Duplex Imaging, Evaluation for AAA~** *Reading Assignment:* Read and Study **Ridgway**: Chapter 11, Chapter 12 pg 382 *Module Tasks*: Discussion Topic, Module Quiz; SIMTICS Module-Abdominal Vessels

Module 6	**Law and Ethics of Vascular Ultrasonography~** Reading Assignment: ***Ridgway:*** Optional Reading Chapter 16 and Chapter 17 *Module Tasks*:, Module quiz, Patient brochure,
Module 7	**Class to Clinical~ DUE DATE 10/25 @11pm EST** *Reading Assignment:* No New Reading , *Module Tasks:* , Discussion Topic, Module Quiz, Final Exam

Grading Scale:

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

Assessment Element	Points
SIMTICS Modules	50
Student Biography	15
Patient Brochure	15
Vocabulary	35
Class Discussion	10
Quizzes	20-40
Final Exam	300

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