

Introduction to Vascular Technology (DSVT 1103)



Credit: 1 semester credit hours (1 hours lecture, 1 hour lab)

Prerequisite/Co-requisite: Passed all previous general and/or cardiac Sonography courses.

Course Description

Introduction to basic non-invasive vascular theories. Emphasizes image orientation, transducer handling, and identification of anatomic structures.

Required Textbook and Materials

1. Vascular Technology: an Illustrated Review by Claudia Rumwell, RN, RVT, FSVT; Michalene McPharlin, RN, RVT, FSVT ISBN# 0-941022-45-5
Recommended but not required:
2. Techniques in Noninvasive Vascular Diagnosis by Robert J. Daigle, BA, RVT ISBN# 978-0-9720653-6-8

Course Objectives

Upon completion of this course, the student will be able to:

1. Describe fundamental vascular concepts of duplex and non-imaging procedures including positioning the patient, equipment, and other devices.
2. Identify vascular anatomy including abdominal, upper and lower extremity arterial and venous systems.

Course Outline

- A. Basic Vascular Structural and Functional Anatomy
 - a. Artery
 - b. Vein
 - c. Lymphatic
 - d. Portal System
- B. Basic Arterial Hemodynamics
 - a. Bernoulli's
 - b. Poiseuille's
 - c. High resistance waveforms
 - d. Low resistance waveforms
- C. Extra Cranial Arterial Anatomy
 - a. Arch
 - b. Carotid
 - i. Internal
 - ii. External
 - c. Vertebral
 - d. Basic Patient Positioning
- D. Intra Cranial Anatomy
 - a. Anterior Circulation
 - b. Posterior Circulation
 - c. Circle of Willis
 - d. Scanning Windows
- E. Upper Extremity Arterial Anatomy
 - a. Forearm
 - b. Upper arm
- F. Central Arterial System Anatomy
 - a. Thoracic
 - b. Abdominal
 - c. Basic Patient Positioning
- G. Lower Extremity Arterial Anatomy
 - a. Lower leg anatomy

DSVT 1103 Course Syllabi

- b. Upper leg anatomy
- c. Basic Patient Positioning
- d. Normal waveforms
- H. Basic Venous Information
 - a. Function
 - b. Structural Anatomy
- I. Lower Extremity Venous Anatomy
 - a. Superficial system
 - b. Deep system
 - c. Perforator system
- J. Central Venous System Anatomy
 - a. Superficial system
 - b. Deep system
- a. Abdominal
- b. Thoracic
- K. Upper Extremity Venous Anatomy

Grade Scale

93 – 100	A
85 – 92	B
75 – 84	C
68 - 74	D (not passing)
73.5 or below	F

Course Evaluation

Semester grades will be calculated from unit tests, lab participation, and homework assignments.

Course Requirements

1. Unit tests (75%)
2. Lab Participation (20%)
3. Homework (5%)

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Beepers, cell phones, head phones and any other electronic devices must be turned off while in class.
3. Do not bring children to class.
4. If a unit test is missed, arrangements will be made with the instructor to take the test in a timely manner.
5. Attendance Policy: Absences must be limited to serious illness and/or immediate family emergencies. Unexcused absences are not allowed. **Three (3) absences will result in a letter grade reduction. Excessive tardiness (more than 10 minutes/class or more than 2 consecutive classes)** will result in an absence being awarded. In the event that LIT is forced to cancel classes due to inclement

weather, DMS classes and clinical rotation will also be canceled. Notification of closures will be made through local radio and TV stations. Students out of the immediate broadcast area should contact the Program Director for information. **It is extremely important that students communicate with the faculty regarding absences by telephone and/or email at all times.**

6. All assignments are due when stated. Late assignments will result in a drop of **10** points per late day, and more than five days past due will result in a grade of **0**. If a student has an excused absence with written documentation, assignments will be accepted at the beginning of class upon return. Missed in-class assignments receive a grade of **0**.
7. Cheating on any (lecture/lab) exam results in immediate dismissal from the program and an **F** for the course.
8. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an “**F**” in the course.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule

Week of	Topic	Reference
Week 1	Basic Vascular Structural and Functional Anatomy	Rumwell: pgs. 11-17; Daigle: pgs. 79-80,84, 86-89
Week 2	Basic Arterial Hemodynamics	Rumwell: pgs. 11-18, 43-52, 127-120, 175-181; Daigle: pgs. 141-144
Week 3	Extra Cranial Arterial Anatomy	Rumwell: pgs. 121-123, 144-153, 162-163 Daigle: pgs. 24-27, 37-42, 71-72
Week 4	Intra Cranial Anatomy	Rumwell: pgs. 123-127, 137, 157-158 Daigle: pgs. 261-264
Week 5	Test 1	
Week 6	Upper Extremity Arterial Anatomy	Rumwell: pgs. 1-4, 85-87 Daigle: pgs. 225, 236-238
Week 7	Central Arterial System Anatomy	Rumwell: pgs. 4-7, 96-106 Daigle: pgs. 283-290, 293-295
Week 8	Lower Extremity Arterial Anatomy	Rumwell: pgs. 7-10, 90-93 Daigle: pgs. 148, 199-203, 206-207

DSVT 1103 Course Syllabi

Week 9	Test 2	
Week 10	Basic Venous Functional and Structural Anatomy	Rumwell: pgs. 175-181 Daigle: pgs. 84, 86-89
Week 11	Lower Extremity Venous Anatomy	Rumwell: pgs. 169-174 Daigle: pgs. 79-83
Week 12	Lower Extremity Venous Anatomy	Rumwell: pgs. 169-174 Daigle: pgs. 79-83
Week 13	Test 3	
Week 14	Central Venous System Anatomy	Rumwell: pgs. 174-175 Daigle: pgs. 299, 296
Week 15	Upper Extremity Venous Anatomy	Rumwell: pgs. 173-174 Daigle: pgs. 127-134, 139
Week 16	Test 4	

Contact Information

Instructor: Melissa Mann, RDMS, RVT, RDCS
Office: Rm. 204, MPC
Telephone: (409) 839-2905
E-mail: mamann@lit.edu
Office hours: Varies and by appointment