

DSVT 1103 6A1

## INTRODUCTION TO VASCULAR TECHNOLOGY

### CREDIT

1 Semester Credit Hours (1 hour lecture, 1 hour lab)

### MODE OF INSTRUCTION

Face to Face

### PREREQUISITE/CO-REQUISITE:

Passed all previous general/cardiac sonography courses

### COURSE DESCRIPTION

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

### COURSE OBJECTIVES

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

- Describe fundamental vascular concepts of duplex and non-imaging procedures including positioning the patient, equipment, and other devices.

### INSTRUCTOR CONTACT INFORMATION

Instructor: Melissa Mann – Lecture/Lab  
Deena Boland - Lab

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Office Phone: 409-257-0057  
409-257-0058

Office Location: GATEWAY 113  
GATEWAY 112

Office Hours: Please see starfish to schedule an appointment

### REQUIRED TEXTBOOK AND MATERIALS

1. ***Vascular Technology: An Illustrated Review 5<sup>th</sup> edition*** by Claudia Rumwell, RN, RVT, FSVT; Michalene McPharlin, RN, RVT, FSVT ISBN# 9780941022859.
2. ***Techniques in Noninvasive Vascular Diagnosis*** by Robert J. Daigle, BA, RVT ISBN# 978-0989932912

Approved: MM/1-17-23



**LAMAR INSTITUTE  
OF TECHNOLOGY**

3. Computer with internet access
4. Webcam for taking exams

**ATTENDANCE POLICY**

Students are expected to be in class unless prior arrangements have been made. Absences must be limited to serious illness and/or immediate family emergencies. **Three (3) lecture absences will result in a letter grade reduction. Two (2) lab absences will result in a 10 point grade reduction from the overall lab average. Excessive tardiness (more than 15 minutes/class or more than 2 consecutive classes)** will result in an absence being awarded. Also, leaving class early 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.**

**DROP POLICY**

If you wish to drop a course, you are 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.

**LECTURE COURSE CALENDAR**

WEEK	TOPIC	READINGS	ASSIGNMENTS (Due on this Date)
1	<b>Review Syllabus/ Circulatory System PP</b>	Syllabus and Unit I PPs Via Blackboard	
2	<b>Basic Vascular Structural and Functional Anatomy and Arterial Hemodynamics PP</b>	Unit I PPs and Homework Assignments via Blackboard	
3	<b>Extra Cranial Arterial Anatomy (Cerebrovascular PP)</b>	Unit I PPs and Homework Assignments via Blackboard	
4	<b>Intra Cranial Arterial Anatomy (Cerebrovascular PP)</b>	Unit I PPs and Homework Assignments via Blackboard	
5	<b>TEST 1/ Upper Extremity Arterial Anatomy PP</b>	Unit II PPs and Homework Assignments via Blackboard	<b><u>FEBRUARY 14, 2023 HOMEWORK FOR UNIT I TEST DUE BEFORE CLASS</u></b>

			<b><u>UNIT TEST I VIA BLACKBOARD COMPLETED DURING CLASS</u></b>
6	<b>Upper Extremity Arterial Anatomy/Central Arterial System Anatomy PP</b>	Unit II PPs and Homework Assignments via Blackboard	
7	<b>Central Arterial System Anatomy/Lower Extremity Arterial Anatomy PP</b>	Unit II PPs and Homework Assignments via Blackboard	
8	<b>TEST 2/ Basic Venous Functional and Structural Anatomy PP</b>	Unit III PPs and Homework Assignments via Blackboard	<b><u>MARCH 7, 2023 HOMEWORK FOR UNIT II TEST DUE BEFORE CLASS UNIT TEST II VIA BLACKBOARD COMPLETED DURING CLASS</u></b>
9	<b>SPRING BREAK</b>		
10	<b>Lower Extremity Venous Anatomy PP</b>	Unit III PPs and Homework Assignments via Blackboard	<b><u>MARCH 25, 2023 BLACKBOARD RESEARCH ASSIGNMENT DUE BY MIDNIGHT VIA BLACKBOARD SUBMISSION</u></b>
11	<b>Lower Extremity Venous Anatomy PP</b>	Unit III PPs and Homework Assignments via Blackboard	
12	<b>TEST 3</b>		<b><u>APRIL 4, 2023 HOMEWORK FOR UNIT III TEST DUE BEFORE CLASS UNIT TEST III VIA BLACKBOARD COMPLETED DURING CLASS</u></b>
13	<b>Central Venous System Anatomy/ Thoracic Venous Anatomy</b>	Unit IV PPs and Homework Assignments via Blackboard	

14	Upper Extremity Venous Anatomy	Unit IV PPs and Homework Assignments via Blackboard	
15	TEST 4		<b><u>APRIL 25, 2023</u></b> <b><u>HOMEWORK FOR</u></b> <b><u>UNIT IV TEST DUE</u></b> <b><u>BEFORE CLASS</u></b> <b><u>UNIT TEST IV VIA</u></b> <b><u>BLACKBOARD</u></b> <b><u>COMPLETED</u></b> <b><u>DURING CLASS</u></b>
16	EXTRA SCAN DAY		
	FINALS WEEK		<b><u>MAY 9, 2023</u></b> <b><u>FINAL EXAM MUST BE</u></b> <b><u>TAKEN VIA</u></b> <b><u>BLACKBOARD BY</u></b> <b><u>NOON ON THIS DAY</u></b>

- This schedule is subject to change at the discretion of the instructor.

#### LAB COURSE CALENDAR

WEEK	LAB ACTIVITY	INFO NEEDED	ASSIGNMENTS (Due on this Date)
1	LECTURE CONTINUATION		
2	LAB- CAROTID DUPLEX	Protocol / Tips/ Instructions found on Blackboard	
3	LAB- CAROTID DUPLEX	Protocol / Tips/ Instructions found on Blackboard	<b><u>FEBRUARY 3, 2023</u></b> <b><u>VIDEO LAB QUIZ # 1</u></b> <b><u>DUE BY MIDNIGHT ON</u></b> <b><u>BLACKBOARD</u></b>
4	LAB- CIRCLE OF WILLIS MODEL	DURING LAB TIME	<b><u>FEBRUARY 7, 2023</u></b> <b><u>CIRCLE OF WILLIS</u></b> <b><u>MODEL EXPLANATION</u></b> <b><u>FOR LAB TEST GRADE</u></b> <b><u>DURING CLASS</u></b>
5	NO LAB/ LECTURE CONTINUATION		

6	LAB- CAROTID DUPLEX	Protocol / Tips/ Instructions found on Blackboard	
7	LAB- LEA MODEL	DURING LAB TIME	<b><u>FEBRUARY 28, 2023</u></b> <b><u>LEA MODEL</u></b> <b><u>EXPLANATION</u></b> <b><u>FOR LAB TEST GRADE</u></b> <b><u>DURING CLASS</u></b>
8	NO LAB/ LECTURE CONTINUATION		<b><u>MARCH 10, 2023</u></b> <b><u>VIDEO LAB QUIZ # 2</u></b> <b><u>DUE BY MIDNIGHT ON</u></b> <b><u>BLACKBOARD</u></b>
9	<b>SPRING BREAK</b>	<b>MARCH 13-17</b>	
10	LAB- CAROTID DUPLEX	Protocol / Tips/ Instructions found on Blackboard	<b><u>MARCH 24, 2023</u></b> <b><u>CAROTID PROTOCOL</u></b> <b><u>DUE BY MIDNIGHT ON</u></b> <b><u>BLACKBOARD</u></b>
11	LAB - MESENTERICS	Protocol / Tips/ Instructions found on Blackboard	
12	LAB - MESENTERICS	Protocol / Tips/ Instructions found on Blackboard	<b><u>APRIL 7, 2023</u></b> <b><u>VIDEO LAB QUIZ # 3</u></b> <b><u>DUE BY MIDNIGHT ON</u></b> <b><u>BLACKBOARD</u></b>
13	LAB – MESENTERICS/ LE VENOUS	Protocol / Tips/ Instructions found on Blackboard	<b><u>APRIL 14, 2023</u></b> <b><u>MESENTERIC</u></b> <b><u>PROTOCOL DUE BY</u></b> <b><u>MIDNIGHT ON</u></b> <b><u>BLACKBOARD</u></b>
14	LAB – LE VENOUS	Protocol / Tips/ Instructions found on Blackboard	
15	LAB – LE VENOUS	Protocol / Tips/ Instructions found on Blackboard	
16	LAB – LE VENOUS	Protocol / Tips/ Instructions found on Blackboard	<b><u>MAY 5, 2023 LE</u></b> <b><u>VENOUS PROTOCOL &amp;</u></b> <b><u>VIDEO LAB QUIZ # 4</u></b> <b><u>DUE BY MIDNIGHT ON</u></b> <b><u>BLACKBOARD</u></b>

- This schedule is subject to change at the discretion of the instructor.

## **COURSE EVALUATION**

**There are two components to this course, lecture and lab. They come together for a combined overall grade.**

Final grades will be calculated according to the following criteria:

Semester grades will be calculated from unit tests, lab participation, lab scan tests, lab models, lab video quizzes, research assignment and homework assignments.

- Unit tests **(70%)**
- Lab Participation **(20%)**
  - **15% Lab Tests/ Video Quizzes**
  - **5% Lab Participation**
- Homework **(10%)**
  - **Homework Assignments**
  - **Research Assignment**

## **GRADE SCALE**

- 93-100 A
- 85-92 B
- 77-84 C
- 69-76 D
- 0-68 F

## **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
  - 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
  - d. Basic Patient Positioning
- J. Central Venous System Anatomy
  - a. Abdominal
  - b. Thoracic
- K. Upper Extremity Venous Anatomy
  - a. Superficial system
  - b. Deep system
  - c. Basic Patient Positioning

## **TECHNICAL REQUIREMENTS**

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

## **DISABILITIES STATEMENT**

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email [specialpopulations@lit.edu](mailto:specialpopulations@lit.edu). You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

## **STUDENT CODE OF CONDUCT STATEMENT**

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at [www.lit.edu](http://www.lit.edu). Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

## **STARFISH**

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

## **ADDITIONAL COURSE POLICIES/INFORMATION**

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. **All exams will be on the dates specified unless the instructor makes a change. In case of an absence on exam day, the student will have a 10 point reduction on his/her test score. The score will continue to drop 10 points for every class day missed following the test. Also, if the student**



**attends any sonography classes on test day, he/she must take the test that day or a zero will be given. The student will have to make up the test if missed, the class day that the student returns.**

5. The terminology excused or not excused absence does not apply to this class. All absences are equal. Therefore, no matter the circumstances involved in the student's absence it will be counted towards the total for the semester.
6. All assignments are due when stated **at the beginning of class or online at the dates given on the syllabus**. 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**. Missed in-class assignments receive a grade of **0**.
7. It shall be considered a breach of academic integrity (cheating) to use or possess on your body any of the following devices during any examination unless it is required for that examination and approved by the instructor: Cell phone, smart watch/watch phone, laptop, tablet, electronic communication devices (including optical), and earphones connected to or used as electronic communication devices.
  - a. **Cheating on any (lecture/lab) exam results in immediate dismissal from the program and an F for the course.**
8. All exams will be online. You will be using LockDown Browser with Webcam Monitoring. The rules for the tests are:

Disable all notifications on your computer. This is how LockDown Browser is used to take a test.

- Locate the "LockDown Browser" shortcut on the desktop and double-click it. (For Mac users, launch "LockDown Browser" from the Applications folder.)
- If prompted to close a blocked program (e.g. screen capture, instant messaging) choose Yes.
- Log into the course, navigate to the test and select it.
- A Startup Sequence will guide the student through a webcam check and other items required by the instructor.
- The test will then start.

20-point deductions for each occurrence:

- Where you are taking your exam must be well lit. If it is not well lit, you will have 20 points deducted from your test.
  - Your face must be visible the entire length of the test. If your face cannot be seen even for a few seconds you will have 20 points deducted from your test.
  - No music should be playing nor should a TV/radio/video be on in the background.
  - You may not read the questions out loud. If you do so, you automatically receive a 20-point deduction.

- You may not wear sunglasses, hats, hoodies, earbuds, headphones, etc. during the exam. Your ears must be fully visible the entire exam, failure to comply with this will be a 20-point deduction. If you do this on another exam it will turn into a 50-point deduction
- 50-point reduction or a zero on the entire test
- You must be in a private location. If another person is seen or heard while you are taking your test this could be misconstrued as cheating resulting in a 50-point reduction or a zero. That is up to the situation and your instructor.
  - All phones, notes, books, and other papers must be removed from the testing location. If these items are seen during your exam, you receive an automatic zero on the exam.
  - Do NOT leave the exam room for any reason, if you do, it is an automatic 50-point deduction.
  - Any suspicious activity that appears to be cheating will result in a zero.

#### Testing Tips

1. You must use Google Chrome browser.
    - You must have a webcam and a microphone attached to your computer
    - Be prepared to scan the room with a camera, if you cannot move your computer, you will need to have a mirror available to assist with scanning the room.
  2. It is the student's responsibility to ensure that ALL of the above requirements are met. By completing the verify signature portion of the exam, you are accepting responsibility for your actions during the exam. Failure to follow the requirements will result in deductions from your exam grade when reviewed by your Instructor.
- 9.
- a. **Cheating on any (lecture/lab) exam results in immediate dismissal from the program and an F for the course.**
10. You will have the length of the class to finish an exam. No extra time will be given.
  11. Class roll is taken by the sign in sheets. If you did not sign in, you will be counted absent.
  12. The sign in sheet will be taken up 15 minutes after class starts. If you are more than 15 minutes late to class, you will be counted absent. Also, if you leave the classroom for more than 15 minutes you will be counted absent.

13. When absent, the student is required to contact the instructor to obtain make-up assignment for missed class. It is the student's responsibility to make up lecture/lab assignments or a grade of zero will be given.
14. 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.
15. There will be no extra credit assignments given in this course.
16. Students with special needs and/or medical emergencies or situations should communicate with their instructor regarding individual exceptions/provisions. It is the student's responsibility to communicate such needs to the instructor.
17. If you fail any test, you are required to get ahold of me and schedule a collaborate session to review the material. It is your duty to be prepared for this meeting.
18. Any taping of the material, when we go over tests/ results, will be considered cheating and you will be dismissed from the program. It is our duty to prepare you for the registry.
19. Additional class policies as defined by the individual course instructor and sonography handbook.