

## COURSE OUTLINE

### FALL 2010

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**COURSE TITLE:** Doppler Vascular Imaging.

**COURSE CODE:** DI 155

**CREDIT HOURS:** 45 lectures (3 credits);  
30 laboratories (1 credit);

**TEACHING HOURS:** 09:00 – 11:45 am, T & Th

### TEXTBOOKS AND OTHER ASSIGNED INSTRUCTIONAL MATERIALS

**Please note that this is not intended as a fully comprehensive list but should provide a good basis for lecture and ultrasound laboratory preparation. Values and nomenclature vary between textbooks.**

#### **REQUIRED TEXTBOOK:**

1. Hagen-Ansert: Textbook of Diagnostic Ultrasonography, 6th Edition, Vol#2. (ISBN 0323042023, 9780323042024)

#### **RECOMMENDED:**

2. Vascular Technology: An Illustrated Review. Claudia Rumwell, Michalene McPharlin. Published by Davies Pub., 2004. (ISBN 0941022692, 9780941022699).

3. Appleton & Lange Review for the Ultrasonography Examination. Carol Krebs, Charles S. Odwin, Arthur C. Fleischer, Trudy Dubinsky. Contributor Charles S. Odwin, Arthur C. Fleischer. Published by McGraw-Hill Professional, 2004 (ISBN 0071365168, 9780071365161)

4. General and Vascular Ultrasound: Case Review. William D. Middleton  
Published by Mosby, 2001. ISBN 0323007368, 9780323007368

5. Peripheral Vascular Ultrasound: How, why and when. Abigail Thrush, Timothy Hartshorne. Published by Churchill Livingstone, 1999. ISBN 0443060495, 9780443060496

6. Ultrasound Atlas of Vascular Diseases. Carol Krebs, Vishan L. Giyanani, Ronald L. Eisenberg. Published by Appleton & Lange, 1999. ISBN 0838592449, 9780838592441.

7. Clinical Doppler Ultrasound. Paul L. P. Allan, W. Norman McDicken, Paul A. Dubbins, Myron A. Pozniak. Contributor Paul L. P. Allan. Published by Churchill Livingstone Elsevier, 2006. ISBN 0443101167, 9780443101168.

8. Peripheral Vascular Sonography: A Practical Guide. Joseph F. Polak, Joseph P. Polak. Published by Lippincott Williams & Wilkins, 2004. ISBN 0781748712, 9780781748711.

9. Vascular Ultrasound of the Neck: An Interpretive Atlas. Antonio Alayon, William M. McKinney, William M. Williams, Published by Lippincott Williams & Wilkins, 2001 (ISBN 0781725348, 9780781725347)

10. Essentials of Vascular Laboratory Diagnosis. Emile R. Mohler, Marie Gerhard-Herman, Michael R. Jaff. Published by Blackwell Publishing, 2005. ISBN 1405122153, 9781405122153

11. Vascular Diagnosis with Ultrasound: Clinical Reference with Case Studies  
Doris Neuerburg-Heusler. Published by Thieme, 2006. ISBN 3131038322, 9783131038326

#### **CATALOG DISCRIPTION.**

The anatomy, physiology and pathology of the arterial and venous circulation systems are covered in this course. Noninvasive vascular instrumentation, protocols and techniques are introduced to the student.

#### **PREREQUISITES:**

- DI 110 / UT 110 – Diagnostic Sonography Principles & Protocols
- DI 150 - Harmonic Imaging of Small Parts I (Abdomen)
- SCI 31- Human Biology
- DI 20 - Medical Terminologies
- DI 30 - Anatomy & Physiology
- DI 120 – Physical Principles of Ultrasound

**COURSE OUTLINE  
DI 155 DOPPLER VASCULAR IMAGING.**

<b>Weeks#</b>			<b>Date</b>	<b>Lecture#/Topics</b>
Week 1	#1/Lec	TU	01/19/10	Carotid & Vertebral Duplex Ultrasound (1) Anatomy, physiology&hemodynamics CV blood vessels Technique and interpretation. Transcranila Doppler imaging. <b>Test#1</b>
	<b>Lab -1</b>	<b>TH</b>	<b>01/21/10</b>	<b>Hands-on Ultrasound scanning</b>
Week 2	#2/Lec	TU	01/26/10	Carotid &Vertebral Duplex Ultrasound. (2) Cerebrovascular pathology <b>Test #2</b>
	<b>Lab-2</b>	<b>TH</b>	<b>01/28/10</b>	<b>Hands-on Ultrasound scanning</b>
Week 3	#3/Lec	TU	02/02/10	Carotid & Vertebral Duplex Ultrasound (3) Cerebrovascular pathology. <b>Test#3</b>
	<b>Lab -3</b>	<b>TH</b>	<b>02/04/10</b>	<b>Hands-on ultrasound scanning</b>
Week 4	#4/Lec	<b>TU</b>	02/09/10	Peripheral Arterial Vascular Imagining (1) Pathology. Testing. <b>Test #4</b>
	<b>Lab -4</b>	<b>TH</b>	<b>02/11/10</b>	<b>Hands-on Ultrasound scanning</b>
Week 5	#5/Lec	<b>TU</b>	02/16/10	Peripheral Arterial Vascular Imagining (2) Anatomy & Hemodynamics. <b>Test #5</b>
	<b>Lab -5</b>	<b>TH</b>	<b>02/18/10</b>	<b>Hands-on Ultrasound scanning</b>
Week 6	#6/Lec	TU	02/23/10	Peripheral Arterial Vascular Imagining (3) Pathology. <b>Test #6</b>
	<b>Lab -6</b>	<b>TH</b>	<b>02/25/10</b>	<b>Hands-on Ultrasound scanning</b>
Week 7	#7/Lec	TU	03/02/09	Peripheral Arterial Vascular Imagining (4) Pathology. <b>Test #7</b>
	<b>Lab-7</b>	<b>TH</b>	<b>03/04/10</b>	<b>Hands-on Ultrasound scanning</b>
Week 8	#8/ Lec	TU	03/09/10	<b>MIDTERM (60 q)</b> Peripheral Venous Imaging (1) <b>Color/ Power and Spectral Doppler</b>
	<b>Lab -8</b>	<b>TH</b>	<b>03/11/10</b>	<b>Hands-on ultrasound scanning</b>
Week 9	#9/Lec	TU	03/23/10	Peripheral Venous Imaging (2) Anatomy & Hemodinamics. Dupplex imaging. <b>Test #8</b>
	<b>Lab-9</b>	<b>TH</b>	<b>03/25/10</b>	<b>Hands-on Ultrasound scanning /PRESENTATION</b>
Week 10	#10/Lec	TU	03/30/10	Peripheral Venous Imaging (3) Pathology peripheral veins. Dupplex imaging & testing <b>Test#9</b>
	<b>Lab-10</b>	<b>TH</b>	<b>04/01/10</b>	<b>Hands-on ultrasound scanning</b>
Week 11	#11/Lec	TU	04/06/10	Peripheral Venous Imaging (4) Pathology peripheral veins. Dupplex imaging & testing <b>Test#10</b>
Week 12	#12/Lec		04/13/10	Abdominal Blood Vessels Imaging (1) Anatomy & Hemodynamics. Pathology Abdominal Blood Vessels <b>Test#11</b>
Week 13	#13/Lec	TU	04/20/10	Abdominal Blood Vessels Imaging. (2) Anatomy & Hemodynamics. Pathology Abdominal Blood Vessels. <b>Test#12</b>
Week 14	#14/Lec	TU	04/27/10	Review - lectures
Week 15	#15	TU	05/04/10	<b>FINAL EXAM – WRITTEN (100 q)</b>
<b>Week 16</b>	#16	TU	05/11/10	<b>Review - FINAL EXAM – WRITTEN</b>