

University of Arkansas - Fort Smith
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General Syllabus

ISS 3223 Vascular Sonography I

Credit Hours: 3

Lecture Hours: 2

Laboratory Hours: 2

Prerequisite: ISS 3113 Cross-Sectional Anatomy

Corequisites: ISS 3203 Abdominal Sonography I, ISS 3212 Acoustical Physics and Instrumentation II, and ISS 3213 Clinical Practice II

Effective Catalog: 2018-2019

I. Course Information

A. Catalog Description

The study and application of medical sonography related to central and peripheral arterial and venous system, cerebral arterial system, and abdominal vasculature. Topics will include vascular anatomy, diseases, physical examinations, noninvasive testing and invasive testing. Technical information to include performance of physiological testing, real-time ultrasound imaging and Doppler evaluation as it relates to vasculature.

B. Additional Information - None

II. Student Learning Outcomes

A. Subject Matter

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

1. Classify normal vascular anatomy associated with cerebrovascular evaluation, abdominal vasculature, peripheral arterial evaluation and peripheral venous evaluation.
2. Analyze the structure and function of the cerebrovascular system, peripheral venous, and peripheral arterial vascular systems and abdominal vasculature.
3. Assess the abnormal anatomy encountered during extracranial and intracranial imaging examinations and peripheral arterial testing.

4. Evaluate the signs, symptoms and risk factors associated with cerebrovascular disease, peripheral arterial disease and abdominal vasculature disease.
5. Manage the proper instrument control setting used during carotid duplex imaging, TCD, and arterial duplex imaging.
6. Justify testing for the cerebrovascular, peripheral venous, peripheral arterial systems and abdominal vasculature systems.
7. Evaluate the statistics used with vascular testing.
8. Hypothesize patient safety concerns with vascular conditions and testing.
9. Speculate how prejudices affect our work life.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills

Critical Thinking Skills: Students will recognize, evaluate and identify normal and abnormal pathology of the vascular system. Students will research and critically think disease processes, so they can distinguish disease characteristics.

Communication Skills (written and oral)

Students will work in small groups to compose a case study. Students will present their findings orally during a poster presentation.

Ethical Decision Making

Students will critically think, process and pose solutions to ethical dilemmas during lab practice.

Global and Cultural Perspectives

Students will understand how different cultures seek medical care and they will identify various diseases that affect certain ethnic groups.

III. Major Course Topics

- A. Anatomy of Extracranial Cerebrovascular Imaging
- B. Anatomy Associated with Peripheral Arterial Testing
- C. Anatomy for Venous Duplex Imaging
- D. Anatomy for Abdominal/Visceral Vasculature Systems
- E. Technical Aspects of Carotid Duplex Imaging
- F. Indirect Arterial Testing
- G. Arterial and Venous Duplex Imaging
- H. Disease Processes Associated with Cerebrovascular System, Arterial System, Venous System, and Abdominal Vasculature System
- I. Interpretation of Carotid Duplex imaging, Arterial Duplex Imaging, and Venous Duplex Imaging