ECHO1120 - Ultrasound Physics and Instrumentation I

Credits:	3 (3/0/0)
Description:	Students will apply the principles of ultrasound, sound propagation, pulsed-echo instrumentation, image formation, transducers and system operation to the interpretation of sonographic information and image methodology. Integrating these theories and abstract principles with their practice clinical applications will be emphasized.
Prerequisites:	
Corequisites:	• ECHO1100 • ECHO1105
Pre/Corequisites*:	
Competencies:	1. Explain the principles of soundwaves. 2. Describe the speed of sound through different mediums. 3. Analyze mathematical equations to solve ultrasound physics. 4. Describe how ultrasound waves propagate. 5. Explain how a transducer converts sound into an image. 6. Demonstrate how a two-dimensional image is created. 7. Explain how sound waves interact with human tissue. 8. List the components of an ultrasound wave. 9. Describe the differences between pulsed and continuous wave ultrasound. 10. Analyze the instrumentation of an ultrasound system. 11. Describe how ultrasound is applied to clinical practice and diagnosis of disease.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*

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