WSI 310 - SONAR SYSTEMS AND OPERATIONS

Course Description

This course provides advanced training for the use of sonar systems in the subsea environment. Students will utilize multiple sonar systems for the purpose of profiling and imaging nearshore infrastructure; positioning and navigation of subsurface equipment; and interpreting collected sonar data for use in marine subsurface applications. Specific sonar systems utilized will include multibeam sonar, side scan sonar, scanning sonar and USBL systems. Group 2 course.

Credit Hours

4

Contact Hours

6

Lecture Hours

2

Lab Hours

4

Required Prerequisites

WSI 200, WSI 210

Course Learning Outcomes

Knowledge:

- Develop necessary skills specific to sonar operations for marine subsurface applications.

Application:

- Acoustically create visualizations of underwater structures including docks, piers, intakes, shipwrecks and habitat.

Integration:

- Demonstrate the general acoustic principles including sonar frequency, range and their influence on resolutions.
- Evaluate the subsurface ecosystem and marine habitat through interpretation of sonar data.

Human Dimension:

- Develop as a technical lead for a cross-functional team through advanced sonar system operations.
- Integrate components for subsea navigation and positioning using underwater positioning and sonar systems for customer requirements and applications.

Caring - Civic Learning:

- Appreciate the importance of sonar operations in providing information to local, regional and global stakeholders.

Learning How to Learn:

- Recognize the ability to use sonar operations in various real-life applications.