

WSI 300 - REMOTE SENSING AND SENSORS

- Apply remote sensing capabilities to real-life applications.

Course Description

This course provides a foundation in the use of electronic sensors for remote observations. The focus will be on applications for marine and near-shore environments, though any sensor system/platform may be discussed. Basic sensor science will be applied to the study of remote sensing instruments, including marine acoustics, terrestrial acoustics, visible, laser/LIDAR, multispectral, and hyperspectral. Sensor development and evolution will be studied, as well as related current events including instruments used in deep-sea, commercial, military, and space science industries. Group 2 course.

Credit Hours

3

Contact Hours

4

Lecture Hours

2

Lab Hours

2

Recommended Prerequisites or Skills Competencies

Placement into ENG 111

Course Learning Outcomes

Knowledge:

- Describe the capabilities of various sensors used in the study of marine and near-shore environments.
- Develop an understanding of how energy propagates in different spectrums and media.

Application:

- Apply scientific principles regarding acoustics and electromagnetic energy in various mediums.
- Consider the processes used by sensors to convert emitted and reflected energy into visual representations for analysis.

Integration:

- Employ knowledge of sensor science and modern technology surrounding various deployment platforms to identify innovative methods for data collection.
- Utilize sensor results to prepare effective visuals.
- Properly communicate results visually.

Human Dimension:

- Consider how different people interpret color and other cartographic techniques.

Caring - Civic Learning:

- Understand how to safely deploy and use various sensors in ways that do not adversely impact the environment being measured.

Learning How to Learn: