INTRO TO COASTAL & MARINE GEOLOGY

AN INTRODUCTION TO THE GEOLOGICAL PROCESSES THAT FORM, SHAPE, AND MODIFY THE WORLD'S OCEAN BASINS

- beaches
- barrier islands
- continental margins
- deep ocean basins

- microfossils
- deep sea sediments & habitats
- plate tectonics

GEOL 107
TR 1:40 - 2:55

A PRE-REQ FOR INTRO TO SEAFLOOR MAPPING/
Learn about the geologic processes that formed the planets and moons in our solar system while gaining deep insight into the interrelationships between the planetary bodies. A special focus will be on the Moon and Mars, including landing site and habitat criteria.

GEOL 206 | TR 9:25 - 10:40
Dr. Cass Runyon
prerequisite for GEOL 260: NASA Space Mission Design
Learn the software used to turn raw sonar data collected by ocean going vessels into amazingly detailed maps of the seafloor. This course starts your path toward incredible job and career opportunities!

This is the foundation course for the CofC BEAMS program and satisfies 2 elective credits for the interdisciplinary Geoinformatics Minor!
This spring join a student team tasked with designing an unmanned NASA satellite mission. Under the mentorship of Dr. Cass Runyon (Geology Dept.) and Professor Kiwi Davis (Physics Dept.), CofC students will join forces with engineering students from the University of Alabama - Hunstville to compete against other universities for the best mission.

Final projects are evaluated by NASA experts!

MISSION: Titan, a moon of Saturn

GEOL 260/260L or 460L
TR 12:15 - 1:30
Dr. Cass Runyon
Conduct research on a portion of the seafloor using archived acoustic data and state-of-the-art software to address questions related to seabed/substrate characteristics such as geomorphology, benthic habitat potential, and geologic origin.
This special topics class is a deep dive into how to be a paleontologist: learn "best practices" for methods and skills required to study fossilized specimens using actual specimens from the Mace Brown Museum of Natural History. Related topics include photography, science illustration, 3D modeling, scientific writing, and more.
Wonder what role plate tectonics has on the explosivity of volcanoes or the chemical composition of the oceans? Or how plate tectonics drives continental growth? Ever think about why plates change their motion? We will investigate all these questions and more in this discussion driven class. To be successful in this course, active participation is key. Students are highly encouraged to have taken at least 1 upper-level geology course.

**SCHEDULE**

**Spring 2022 | GEOL 395-03**

**Mondays 12:00 - 12:50**

**Dr. Erin Beutel**
GEOSPATIAL SCIENCE

Learn the concepts and components behind Geographic Information Systems (GIS) and Remote Sensing (RS) using Google Earth, ArcGIS online, ArcGIS desktop, and image processing software packages.

GEOL 402 | Spring 2022
TR 5:30 - 8:30 PM
Prereq for GEOL 469: Advanced GIS
An introduction to the historical development, significance and underlying theory of the controls on groundwater movement and geochemical evolution. Emphasis will be placed on analyzing the dynamics of natural flow systems in a variety of geologic terrains. This analysis will then be used to assess water supply and water quality issues for the purposes of decision making.
This course will cover the application of remote sensing to environmental problems. Topics include: remote sensing theory, data collection, reduction and application, computer software tools, data acquisition and ties to geographic information systems (GIS). This course assumes a basic understanding of remote sensing.
Advanced GIS - Environmental and Hazards Modeling is designed to enhance the student's knowledge of and skills in the science and applications of Geographic Information systems. Topics include: Cloud GIS, Model building, Process automation, LIDAR and image processing and FEMA's HAZUS.