This course will cover the spatial data types and quality, data input operations, database management, data analysis, software design concerns and various applications for GIS. Computer-based GIS software will be used throughout the course.

Eligible for major elective credit for GEOL and GENV
WHY TAKE GEOL 412, GEOPHYSICS? IT'S A JAMES BOND TYPE OF CLASS! SEISMOLOGISTS WERE ABLE TO TELL EXPLOSIONS CAUSED A PIPELINE BREAK. GEOPHYSICS IS ALSO USED TO KNOW WHEN UNDERGROUND NUCLEAR BOMB TESTING IS GOING ON LIKE IN NORTH KOREA.

EXPLORE GEOPHYSICAL PROCESSES SUCH AS GRAVITY, MAGNETISM, AND EARTHQUAKE SEISMOLOGY. LEARN THE BASIC MECHANICS OF GEOPHYSICAL SURVEYS, HOW TO INTERPRET SEISMIC DATA AND OTHER TOOLS THAT CAREER GEOLOGISTS USE IN ALMOST EVERY FIELD!

ELIGIBLE FOR MAJOR ELECTIVE CREDIT FOR GEOL AND GENV
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.

Eligible for major elective credit for GEOL and GENV

GEOL 402 | EVSS 502
TR 5:30 - 8:30 PM

Charlie Kaufman - Geographer, US Army Corps of Engineers supporting the Charleston district with GIS mapping of public work projects

Prereq for GEOL 469: Advanced GIS
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.

Eligible for major elective credit for GEOL
CRITICAL ZONE SCIENCE

GEOL 313 | MWF 10:00 - 10:50 AM
DR. VIJAY VULAVA

Inspect the critical zone, Earth’s realm from the groundwater and geologic foundation up through the top of the vegetation canopy with a focus on environmental-human interactions.
An introduction and synthesis of methods and policies typically encountered by environmental geologists and geoscientists in the field. Environmental Field Methods will have a heavy focus on field work, with the possibility of a camping trip in the mountains! This course is an excellent way to for B.S. students to start preparing for field studies and for B.A. students to experience field work! This occasionally offered course will fill so don't delay snagging your seat!
MISSION ARISE: Autonomous Research
Investigating the Surface of Europa

Be a part of planning a 3 part mission to Europa, a moon of Jupiter! Help determine the science that will be conducted from an orbiter, a lander and a probe to understand the nature of the moon. Does life exist? Is there a liquid ocean? What is creating the surface features?

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 - Huntsville to design an innovative and exciting mission. Final projects are evaluated by NASA experts!
INTRO TO SEAFLOOR MAPPING

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!

Eligible for major elective credit for GEOL
Explore 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
prereq for GEOL 260: NASA Space Mission Design

Eligible for major elective credit for GEOL
INTRO TO COASTAL & MARINE GEOLOGY

GEOL 107 | TR 1:40 - 2:55

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

/A PRE-REQ FOR INTRO TO SEAFLOOR MAPPING/