

Geophysics & Planetary Sciences

This degree is jointly administered with the Department of Astronomy.

The major in Geophysics & Planetary Sciences (G & PS) provides students with broad knowledge of the principles of astronomy, together with geophysics and planetary sciences topics such as planetary geology, planetary atmospheres, and planetary interiors. Students learn to communicate astronomical information effectively to a variety of audiences using the spoken and written word. They learn to think critically and evaluate, interpret, and solve problems related to astronomy, geophysics, planetary sciences, and general scientific topics. A bachelor's degree in G & PS prepares students for research in geophysics, geodynamics, seismology, and planetary science as well as careers in science education, management, geotechnical consulting, computing, and science writing.

REQUIRED CORE COURSES (4)

AS 202 Principles of Astronomy I
AS 311 Planetary Physics
ES 107 Intro to Climate & Earth System Science
ES 305 Rock Deformation & Structure

REQUIRED RELATED COURSES (8)

MA 123 Calculus I
MA 124 Calculus II
MA 225 Multivariate Calculus
CH 101 General Chemistry I or CH 131 General Chemistry for Engineering Sciences
PY 211 General Physics and PY 212 General Physics or PY 251 Principles of Physics 1 and PY 252 Principles of Physics 2
PY 355 Methods of Theoretical Physics
PY 405 Electromagnetic Fields and Waves or PY 408 Intermediate Mechanics

REQUIRED MAJOR ELECTIVES (4)*

AS 312 Stellar and Galactic Astrophysics
AS 414 Solar and Space Physics
AS 441 Observational Astronomy
ES 300 Earth's Rocky Materials
ES 301 Structural Analysis of Rocks
ES 333 Earth Surface Processes
ES 371 Introduction to Geochemistry
ES 420 Remote Sensing and Aquatic Optics
ES 483 Geodynamics II: Fluids & Fluid Transport
ES 510 Intro to Atmospheric Boundary Layer
ES 533 Quantitative Geomorphology
GE 302 Remote Sensing of Environment
GE 310 Climate and the Environment
GE 507 Dynamical Oceanography
PY 313 Waves and Modern Physics or PY 351 Modern Physics
PY 405 Electromagnetic Fields and Waves I or PY 408 Intermediate Mechanics
PY 410 Statistical Thermodynamics

In addition to the courses listed here, the following are strongly recommended:

CH 102 General Chemistry 2
CS 111 Intro to Computer Science 1
CS 112 Intro to Computer Science 2

**In consultation with their advisor, students selected four courses from this list. One course must be at the 400 level or above. Not all four can be taken in the same department. (GE and ES courses are offered by the Department of Earth & Environment.)*