

# PLANETARY SCIENCES MINOR (GEOL)

**Program Director:** Melissa Hayes-Gehrke, Ph.D.

The minor in Planetary Sciences will provide students with a broad understanding of the application of the methods of astronomy and geology to the study of the Solar System, and develop the students' appreciation of how issues in the study of planets connect with larger issues in those sciences. It is intended for all students with an interest in the study of the Solar System, be it professional or avocational. In addition to Astronomy and Geology majors, it dovetails with the professional goals of Environmental Science and Policy, Environmental Science and Technology, Chemistry, Physics, Physical Sciences, and Secondary Education majors.

Building on a three-course base of fundamental knowledge of astronomy, geology and an introduction to the Solar System, the program is completed by three advanced courses addressing specific topics adding depth to the student's knowledge of planetary astronomy and to the geologic tools of the planetary scientist. Students are required to sample from optional courses from both departments. The Joint Minor in Planetary Sciences does not require significant prerequisite knowledge, however some optional courses may require prerequisites of 100-level courses in chemistry, mathematics, or geology.

An appointment must be made to register for the minor before final 30 credits are taken. Please visit <http://astro.umd.edu/undergrad/minorPlanSci> (<http://astro.umd.edu/undergrad/minorPlanSci/>) for complete rules and procedures and contact the department with any questions.

## REQUIREMENTS

The minor will require 19-22 credits:

| Course  | Title  | Credits |
|---|--|---------|
| <b>Required</b>                               |  |         |
| Select one of the following: <sup>1</sup>     |  | 3-4     |
| ASTR100                                       | Introduction to Astronomy                                |         |
| ASTR101                                       | General Astronomy  |         |
| ASTR120                                       | Introductory Astrophysics - Solar System                 |         |
| Select one of the following:                  |  | 4       |
| GEOL100<br>& GEOL110                          | Physical Geology<br>and Physical Geology Laboratory      |         |
| GEOL120<br>& GEOL110                          | Environmental Geology<br>and Physical Geology Laboratory |         |
| Select one of the following:                  |  | 3       |
| ASTR330                                       | Solar System Astronomy                                   |         |
| ASTR430                                       | The Solar System   |         |
| GEOL212                                       | Planetary Geology  |         |
| Select three from the following: <sup>2</sup> |  | 9-11    |
| ASTR220                                       | Collisions in Space - The Threat of Asteroid Impacts     |         |
| ASTR230                                       | The Science and Fiction of Planetary Systems             |         |
| ASTR380                                       | Life in the Universe - Astrobiology                      |         |
| ASTR498                                       | Special Problems in Astronomy                            |         |
| GEOL322                                       | Mineralogy   |         |

|           |   |
|-----------|---|
| GEOL340   | Geomorphology   |
| GEOL412   | Geology of the Terrestrial Planets  |
| GEOL437   | Global Climate Change: Past and Present   |
| GEOL499   | Special Problems in Geology   |
| ASTR/GEOL | Another appropriate astronomy or geology course approved in advance by the Astronomy or Geology advisor |

**Total Credits** **19-22**

<sup>1</sup> Or equivalent transfer course(s).

<sup>2</sup> At least one choice must be from Geology and one from Astronomy. At least six credits from this list and nine credits overall must be at the 300-400 level.