

GEOPHYSICS - DOCTOR OF PHILOSOPHY (PHD)

The interdisciplinary doctoral program in geophysics encourages students with a variety of undergraduate backgrounds to pursue graduate study in the physics of the Earth, with special emphasis on the interior of the planet. Students specialize in one of the subfields of geophysics while gaining a broad, general background in the discipline and in-depth education in the relevant aspects of the parent fields of geology, physics and engineering.

Students enter the program by applying for admission to one of the following departments:

- aerospace engineering sciences
- astrophysical and planetary sciences
- civil, environmental and architectural engineering
- electrical and computer engineering
- geography
- geological sciences
- mechanical engineering
- physics

Upon satisfactory performance on the doctoral preliminary examination given by the home department, the student may formally apply for admission to the geophysics doctoral program.

The program is administered by the geophysics graduate program committee, which includes representatives from each of the participating departments. The comprehensive examination and the dissertation defense are directed by this committee, with a faculty member of the home department normally chairing these procedures.

For more information, visit the Geophysics Studies Program (<http://www.colorado.edu/geophysics/>) website.

Requirements

Candidates for the doctoral degree must complete at least 30 credit hours in coursework numbered 5000 or above, of which at least 20 must be taken at CU Boulder.

In addition to coursework, candidates must take a total of at least 30 credit hours of doctoral dissertation, with not more than 10 of these taken in any one semester and not more than 10 dissertation credit hours taken before the semester during which the comprehensive examination is passed.

Required Courses and Credits

| Code | Title | Credit Hours |
|-------------------------|---|--------------|
| Required Courses | | |
| ASTR/GEOL/PHYS 6610 | Earth and Planetary Physics 1 (Seismology) | 3 |
| ASTR/GEOL/PHYS 6620 | Earth and Planetary Physics 2 (Geodesy) | 3 |
| ASTR/GEOL/PHYS 6630 | Earth and Planetary Physics 3 (Geodynamics) | 3 |

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| ASTR/GEOL/PHYS 6650 | Seminar in Geophysics | 1-3 |
| One semester of graduate-level applied mathematics from the following: | | 3 |
| PHYS/MATH 5030 | Intermediate Mathematical Physics 1 | |
| APPM 5350 | Methods in Applied Mathematics: Fourier Series and Boundary Value Problems | |
| ASTR 5540 | Mathematical Methods | |
| MCEN 5020 | Methods of Engineering Analysis 1 | |
| Dissertation | | |
| GEOL 8990 | Doctoral Dissertation ¹ | 30 |
| Electives | | |
| Additional courses compatible with the student's research interests to complete the 60-credit minimum. | | 17-15 |
| Total Credit Hours | | 60 |

¹ Or equivalent in home department.

For a list of approved elective courses, visit the Geophysics PhD Program (<https://www.colorado.edu/geophysics/academics/geophysics-phd-program/>) webpage.