

GEOPHYSICS - GRADUATE CERTIFICATE

The geophysics graduate certificate offers a coherent curriculum in geophysics that can complement and supplement a student’s regular degree program and encourages multi-disciplinary education in the area of geophysics. The geophysics certificate program allows students to obtain recognition for their accomplishments in geophysics without having to switch into the geophysics degree program.

Requirements

Admission Requirements

A student wishing to be considered for a certificate in geophysics must be pursuing a graduate degree in one of the participating graduate departments (ASEN, APS, CEAE, ECEN, GEOG, GEOL, MCEN, PHYS). Students from outside the participating departments can apply for entry to the geophysics certificate program by submitting a letter addressed to the Geophysics Graduate Program Committee.

A student must have a course background that includes mathematics through three semesters of calculus and four undergraduate science or engineering courses.

Program Requirements

All students must take at least three geophysics core courses and the Seminar in Geophysics. At least one of the three geophysics core courses must be from the earth and planetary physics (EPP) series, and another must be from outside the student’s home department. Most geophysics core courses are offered once every two years.

Completion with a grade of B or better of a total of three geophysics core courses (at least one from the EPP sequence) and one credit hour for the Seminar in Geophysics.

A certificate in geophysics will be awarded upon the student’s completion of degree requirements in their home department. Upon request from a student, the program director and the student’s advisor will determine whether a student has met the requirements for the certificate and will generate a letter to the appropriate department head and dean. The certificate is not intended as a substitute for a degree and will be awarded only upon completion of a graduate degree.

Required Courses and Credits

Code	Title	Credit Hours
Required Seminar		
ASTR/GEOL/PHYS 6650	Seminar in Geophysics	1
Core Courses		
Choose at least three of the following:		9
ASTR/GEOL/PHYS 6610	Earth and Planetary Physics 1	
ASTR/GEOL/PHYS 6620	Earth and Planetary Physics 2	
ASTR/GEOL/PHYS 6630	Earth and Planetary Physics 3	
ASTR/GEOL/PHYS 6650	Seminar in Geophysics	

APPM 7300	Nonlinear Waves and Integrable Equations
ASEN 5050	Space Flight Dynamics
ASEN 5090	Introduction to Global Navigation Satellite Systems
ASEN 5245	Radar and Remote Sensing
ASEN 5307	Engineering Data Analysis Methods
ASEN 5335	Aerospace Environment
ASEN 6055	Data Assimilation & Inverse Methods for Earth & Geospace Observations
ASEN 6090	Advanced Global Navigation Satellite Systems: Software and Applications
ASTR 5140/ PHYS 5141	Astrophysical and Space Plasmas
ASTR/PHYS 5150	Introductory Plasma Physics
ASTR 5300	Introduction to Magnetospheres
ASTR 5400	Introduction to Fluid Dynamics
ASTR/GEOL 5800	Planetary Surfaces and Interiors
ASTR/ATOC/GEOL 5820	
CVEN 5131	Continuum Mechanics and Elasticity
CVEN 5718	Mechanics and Dynamics of Glaciers
CVEN 5768	Introduction to Rock Mechanics
CVEN 6595	Earthquake Engineering
GEOL 5093	Remote Sensing of the Environment
GEOL 5110	Geomechanics
GEOL 5690	Tectonic History of the Western United States
GEOL 5714	Field Geophysics
GEOL/PHYS 6670	Geophysical Inverse Theory
MCEN 5023	Solid Mechanics 1

Total Credit Hours 10