Geophysics

College of Natural Science and Mathematics
Department of Geology and Geophysics
(907) 474-7565
www.uaf.edu/geology/

M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; Ph.D.: 18 thesis credits

Graduate Program—M.S. Degree

Concentrations: Solid-Earth Geophysics; Snow, Ice and Permafrost Geophysics; Remote Sensing Geophysics

1. Complete the following admission requirements:
   a. Submit GRE scores.
   b. Complete a background at least to the level of a B.S. concentration in geology, geophysics or an appropriate physical science or engineering.
   c. Complete MATH 421 and 422; or equivalent.
2. Complete the general university requirements (page 182).
3. Complete the master's degree requirements (page 186).
   a. Complete 6-12 thesis credits.
   b. Complete any deficiencies concurrently with this degree.
4. Submit a written thesis proposal and pass an oral comprehensive examination centered on this proposal.
5. Complete and submit a written thesis and pass an oral defense of thesis.
6. Complete 6 credits of the following geophysics core requirements:
   GEOS 602—Geophysical Fields....3
   GEOS 620—Geodynamics....3
   GEOS 654—Visible and Infrared Remote Sensing....3
   GEOS 657—Microwave Remote Sensing....3
7. Complete one of the following concentrations:

Solid-Earth Geophysics

a. Complete 6 credits from the following:
   GEOS 604—Intermediate Seismology....3
   GEOS 605—Geochronology....3
   GEOS 613—Global Tectonics....3
   GEOS 655—Tectonic Geodesy....3
   GEOS 671—Volcano Seismology....3
b. Minimum credits required....30

Snow, Ice and Permafrost Geophysics

a. Complete 6 credits from the following:
   GEOS 614—Ice Physics....3
   GEOS 615—Sea Ice....3
   GEOS 616—Permafrost....3
   GEOS 617—Glaciers....3
b. Minimum credits required....30

Remote Sensing

a. Complete 7 credits from the following list:
   GEOS 654—Visible and Infrared Remote Sensing....3
   GEOS 657—Microwave Remote Sensing....3
   GEOS 622—Digital Image Processing in the Geosciences....3
   GEOS 434/634—Remote Sensing of the Cryosphere....4
   GEOS 484/684—Remote Sensing Bi-Weekly Seminar....1
   GEOS 676—Remote Sensing of Volcanic Eruptions....3
   GEOS 639—InSAR and its Applications....3
   ATM 413/613—Atmospheric Radiation....3
b. Complete 6 credits from relevant geology and geophysics courses as agreed by the advisory committee.
c. Minimum credits required....30

Graduate Program—Ph.D. Degree

1. Complete the following admission requirement:
   a. Submit GRE scores.
2. Complete the general university requirements (page 182).
3. Complete the course work requirements for the appropriate M.S. concentration.
4. Complete the Ph.D. degree requirements (page 186).
5. As part of the Ph.D. degree requirements, complete the following:
   a. Complete and pass a written and oral comprehensive examination.
   b. Complete and submit a written thesis proposal for approval.
   c. Complete a research program as arranged with the graduate advisory committee.
   d. Complete 18 credits of thesis, write a thesis and pass an oral defense of thesis.
6. Minimum credits required....18