

# 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 F421 and MATH F422; or equivalent.
2. Complete the general university requirements (page 198).
3. Complete the master's degree requirements (page 202).
  - 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 F602—Geophysical Fields .....	3
GEOS F620—Geodynamics .....	3
GEOS F654—Visible and Infrared Remote Sensing .....	3
GEOS F657—Microwave Remote Sensing .....	3
7. Complete one of the following concentrations:

#### Solid-Earth Geophysics

  - a. Complete 6 credits from the following:

GEOS F604—Intermediate Seismology .....	3
GEOS F605—Geochronology .....	3
GEOS F613—Global Tectonics .....	3
GEOS F655—Tectonic Geodesy .....	3
GEOS F671—Volcano Seismology .....	3
  - b. Minimum credits required .....

#### Snow, Ice and Permafrost Geophysics

- a. Complete 6 credits from the following:

GEOS F614—Ice Physics .....	3
GEOS F615—Sea Ice .....	3
GEOS F616—Permafrost .....	3
GEOS F617—Glaciers .....	3
- b. Minimum credits required .....

#### Remote Sensing

- a. Complete 7 credits from the following list:

GEOS F654—Visible and Infrared Remote Sensing .....	3
GEOS F657—Microwave Remote Sensing .....	3
GEOS F622—Digital Image Processing in the Geosciences .....	3
GEOS F434/F634—Remote Sensing of the Cryosphere .....	4
GEOS F484/F684—Remote Sensing Bi-Weekly Seminar .....	1
GEOS F676—Remote Sensing of Volcanic Eruptions .....	3
GEOS F639—InSAR and its Applications .....	3
ATM F413/F613—Atmospheric Radiation .....	3
- b. Complete 6 credits from relevant geology and geophysics courses as agreed by the advisory committee.
- c. Minimum credits required .....

### Graduate Program — Ph.D. Degree

1. Complete the following admission requirement:
  - a. Submit GRE scores.
2. Complete the general university requirements (page 198).
3. Complete the course work requirements for the appropriate M.S. concentration.
4. Complete the Ph.D. degree requirements (page 203).
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 .....