



## Engineer II – Polar

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UNAVCO is seeking a dedicated engineer to support research in the Arctic, Antarctic and other polar locations.

For more than a decade, UNAVCO, Inc. has spearheaded the utilization of cutting-edge technology to provide robust operational support for researchers exploring the Lithosphere (earthquakes, volcanoes, plate tectonics), the dynamics and influence of Earth's cryosphere, the Earth's response to ground water, sea level and other aspects of the hydrosphere and atmosphere. UNAVCO built and operates the Plate Boundary Observatory, a component of EarthScope, which was named "The Universe's Most Epic Project" by Popular Science in 2011. Our instrumentation toolbox includes precision differential GPS, Terrestrial LiDAR (Light Detection and Ranging), InSAR (Interferometric Synthetic Aperture Radar) and more. As a Large Facility of the National Science Foundation, we operate the national geodesy Data Center and provide cyber infrastructure to support the full data life cycle and interoperability with other national and international Earth science data centers. UNAVCO also supports focused programs in education and workforce development for geosciences.

Learn about UNAVCO on [YouTube](#).

Our long-term success depends on development of a forward-looking, diversified workforce that draws on and cultivates talent across the demographic spectrum of gender and ethnicity, across international boundaries, and across scientific disciplines.

UNAVCO is an Equal Employment Opportunity and Affirmative Action Employer  
Male/Female/Disabled/Veteran

### Position Overview

This is a fulltime position in our Boulder, CO office.  
Salary Range: \$54,400 - \$81,600

UNAVCO offers a very competitive total compensation package including Medical, Dental, Vision, Life, STD, LTD, Supplemental Benefits, 4-weeks PTO, Retirement with a 10% employer contribution, RTD EcoPass, and onsite Fitness Center to name a few.

As a Polar Engineer you will have an exciting and unique opportunity to participate in the support of multiple scientific geodetic endeavors in the Arctic and the Antarctic. This position is responsible for the successful development, planning and evolution of polar GPS campaign support for National Science Foundation Division of Polar Programs funded science projects fielded in the Earth's polar regions. This includes review of Principal Investigator (PI) GPS and Terrestrial LiDAR support requirements; development of integrated GPS, power and communications technology for remote polar applications; oversight of polar campaign equipment pool; planning and provision of field support for technically and logistically complex projects; scheduling equipment and staff time to ensure the successful execution of multiple project efforts. Up to three and a half months travel is required in support of Polar projects, including in Antarctica.

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### **Required Education, Experience, Skills and Knowledge, Position-specific**

- Bachelor's degree in engineering, Earth science or related field and three years experience in engineering, Earth science research, or other relevant technical experience.
- Strong knowledge of geophysical methodologies and instrumentation, data communications, and power systems.
- Proven ability to plan and coordinate complex geophysical research projects.
- Broad range of computer skills in operating systems, communications, networking and applications.
- Effective oral and written communication skills in English.
- Knowledge and practice of field safety and safe use of hand and power tools.
- Ability to meet DOT and UNAVCO driver requirements.
- Ability and willingness to work for extended periods in remote locations under extreme weather conditions.
- Working knowledge of federal grant requirements including procurement standards and allowable costs and be able to transfer that knowledge to others.
- Ability to successfully pass medical requirements for deployment under the United States Antarctic Program.

### **How to Apply**

Visit our website at [www.unavco.org](http://www.unavco.org) for more information about geodesy and our work. If you are interested in joining our team apply online at [www.unavco.org/careers](http://www.unavco.org/careers).

Please submit a Letter of Interest and Resume with your online application.

The deadline for applications is **Friday, April 25, 2014 at 5:00 p.m. Mountain Time.**

Please no calls from agencies or recruiters.

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### Position Description

#### Summary of Job

Independently manages and implements geophysical projects of advanced complexity via hands-on field work, or network and communication maintenance.

#### Essential Responsibilities

- With limited supervision, manages and implements multiple complex geophysical projects that may include: logistics, site reconnaissance, site selection, installation activities, maintenance, network configuration, station communications and/or data flow activities. Designs and tests new systems.
- Specifies station configurations and data collection strategies and develops related cost estimates and project budgets that impact individual projects.
- Independently identifies and solves standard technical issues related to hardware, software, and data communications and receives guidance on complex problems. Troubleshoots hardware, software and logistics.
- Generates detailed technical project documentation and prepares required reports. Prepares content for UNAVCO web site with minimum editorial review.
- Reviews project budgets. Reviews expenditures and provides documentation and technical feedback to assist in the proposal writing process.
- Contribute to scientific and engineering presentations on geophysical project results.
- Travel domestically or internationally for extended periods in support of geophysical projects on short notice.
- Other duties may be assigned as necessary for the successful operation of the business.

#### Working Relationships

Internal: Works in conjunction with UNAVCO staff to plan and execute complex geophysical projects to support the geodetic science community. Independently trains field personnel and other UNAVCO staff in best practice techniques for geophysical data collection. Works under minimal supervision. Informs supervisor concerning unusual problems and proposes appropriate solutions. Assignments given with general objectives and limits.

External: Works in conjunction with Principal Investigators and other collaborators to plan and execute complex geophysical projects in support of the UNAVCO community.

#### Job Qualifications

##### UNAVCO Core Competencies

- Accountability and Responsibility
- Relationship Building
- Skilled Problem Solver
- Customer Focus

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- Strategic Thinking
- Builds Talent
- Business Acumen

### Required Education and Experience

Bachelor's degree in engineering, Earth science or allied field and three years experience in engineering, Earth science research, or other relevant technical experience; OR Masters degree in engineering, Earth science or similar field and one year experience; OR a Ph.D. degree in engineering, Earth science or similar field or equivalent combination of education and experience.

### Required Skills and Knowledge

- Effective oral and written communication skills in English.
- Strong knowledge of geophysical methodologies and instrumentation, data communications, and power systems.
- Broad range of computer skills in operating systems, communications, networking and applications.
- Proficiency in computer networking and data communications.
- Proficient in project specific hardware and software.
- Ability to supervise complex tasks.
- Proven ability to plan and coordinate complex geophysical research projects.
- Working knowledge of federal grant requirements including procurement standards and allowable costs and be able to transfer that knowledge to others.
- Knowledge and practice of field safety.
- Skills in the safe use of hand and power tools.
- Ability to meet DOT and UNAVCO driver requirements for the position advertised.
- Ability and willingness to work under difficult physical conditions to:
  - Travel for extended periods of time, including up to three months per year in Antarctica and up to three weeks per year in the Arctic.
  - Lift and carry up to 50lbs over one mile in rough terrain.
  - Pass the US Antarctic Program medical screening.
  - Fly for extended periods of time in confined aircraft.
  - Work at altitudes of up to 14,000ft equivalent pressure.
  - Provide field support at primitive remote field camps.

### Working Conditions

#### Physical Work Demands

Must be able to balance, bend, stoop, climb, kneel, crawl, and climb stairs; sit for sustained periods of time; use fingers and repetitive motion on computing and communications devices; ability to carry and lift items over 45 pounds; ability to reach above shoulders; ability to walk in remote areas over rough terrain in extreme weather conditions; ability to hear and speak effectively on phone; the ability to see technical components in low lighting conditions. Must be able to fly in confined aircrafts for long intervals of time.

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**Mental Work Demands**

Ability to understand, remember and communicate routine, factual information. Ability to organize and prioritize own work schedule on short-term basis (longer than one month). Ability to make decisions which have moderate impact on immediate work unit. Ability to compose letters, outlines, memoranda, and basic reports and/or to orally communicate technical information. Ability to compute, analyze and interpret numerical data for report purposes.

**Note:** To perform this position successfully, an individual must be able to perform each essential responsibility satisfactorily. The requirements listed above are representative of knowledge, skill, and/or ability required and are not intended to be an exhaustive list of all duties, responsibilities or qualifications associated with this position.