Geodetic Orbit Scientist

Department of Defense

Job Summary

JOB DESCRIPTION: Geodetic Orbit Scientists monitor Global Navigation Satellite Systems, acquire and analyze satellite data, and produce accurate products for the National System for Geospatial-Intelligence (NSG). They develop, evaluate, and use algorithms and tools to provide integrity monitoring and determine precise ephemerides and other information. They analyze satellite ranging and timing information in order

Major Duties

ADDITIONAL INFORMATION: The Global Navigation Satellite Systems (GNSS) Division is seeking a Geodetic Orbit Scientist. The GNSS Division has responsibility for a wide range of functions and tasks which require an understanding of satellites and their characteristics (hardware and software), orbital analysis, and geodetic sciences. Current functions include producing daily precise, rapid and predicted ephemerides for GPS satellites using data from NGA and United States Air Force (USAF) ground monitoring stations, as well as daily generation of Earth Orientation Prediction Parameters (EOPP), Defense Meteorological Satellite Program (DMSP) ephemeris, and GPS precise ephemeris data for Satellite Tracking (SATRAK) as needed. The Monitor Station Network Control Center (MSNCC) has responsibility for operating a worldwide GPS monitor station network, which is controlled via the MSNCC in St. Louis, MO and Springfield, VA. Data from our monitor stations is provided near real-time to the USAF for integrity monitoring and used in updating time and position information broadcast by GPS satellites. Daily GPS data in Receiver Independent Exchange (RINEX) format is also supplied to the International GNSS (Global Navigation Satellite System) Service (IGS). GNSS also generates a daily GPS precise ephemeris in batch production mode using Estimation and Prediction of Orbits and Clocks to High Accuracy (EPOCHA) software and is currently testing and evaluating a version of EPOCHA designed to provide near real-time 5-minute GPS precise ephemeris on a 24x7 basis. Band 2 Geodetic Orbit Scientists perform fundamental assignments to monitor Global Navigation Satellite Systems (GNSS), acquire and analyze satellite data, and produce accurate products for the GEOINT Enterprise. They assist in developing, evaluating, and applying algorithms and tools to provide integrity monitoring and determine precise ephemerides and other information. They apply standard procedures and practices to analyze satellite ranging and timing information to identify anomalies in real-time and post-fit scenarios. They handle simple technical and logistical details pertinent to remote command and control of a worldwide network of satellite tracking stations. These Geodetic Orbit Scientists also collaborate with other scientists to provide customers with technical expertise on satellite issues. OTHER REQUIREMENTS: The MSNCC is monitored 24x7 and shift work/rotations, within this position, may be required. Shift rotations may be required. Weekend and Holiday shifts may be required. Occasional travel may be required. Once employed with GNSS, the employee will be deemed Emergency Essential and will not be subject to facility closures or reporting delays; employee must report for duty on time due to shift and mission requirements. Additional Application REQUIREMENT: To qualify and be selected for this job announcement you must complete one or more assessments in addition to the application you submit on this website. These assessments may include but are not limited to: 1) Online questionnaires that require you to describe your experience and/or level of expertise with mandatory or desirable job-related knowledge, skills, abilities, or other characteristics. The information you provide in the application you submit must support the response you provide to this questionnaire. 2) Additional skill-based assessments you may be asked to complete during the selection process. You will receive an email to describe any additional assessments required. Please monitor your emails and complete any required assessments as soon as possible.

Qualifications

MANDATORY QUALIFICATION CRITERIA: For this particular job, applicants must meet all competencies reflected under the
Mandatory Qualification Criteria to include education (if required). Online resumes must demonstrate qualification by providing specific examples and associated results, in response to the announcement’s mandatory criteria specified in this vacancy announcement: 1. Proven ability to communicate ongoing work to peer and leadership through written, visual, spoken reports, or briefings.

2. Demonstrated knowledge in computer and operating systems, computer networking and/or database management.

3. Demonstrated ability of working in a team environment. EDUCATION REQUIREMENT: A. Education: Bachelor's degree from an accredited college or university in Geodesy, Mathematics, Physical Science, or a related discipline that includes at least 30 semester (45 quarter) hours of coursework in any combination of Astronomy, Computer Science, Engineering Science, Geodesy, Geology, Geomatics, Geophysics, Mathematics, Orbital Mechanics, Physical Science, Physics, Remote Sensing, or Surveying. Coursework must include differential and integral calculus. -OR- B. Combination of Education and Experience: A minimum of 30 semester (45 quarter) hours of coursework in any area listed in option A, plus experience in conducting work related to satellite operations, GPS surveying, Geodesy, Geophysics, Wide Area Network analysis, or a related field that demonstrates the ability to successfully perform the duties associated with this work. As a rule, every 30 semester (45 quarter) hours of coursework is equivalent to one year of experience. Candidates should show that their combination of education and experience totals 4 years.

PHYSICAL REQUIREMENT: Distinguish principal colors and shades/hues of principal colors; Near visual acuity of 20/20 or better with or without corrective lenses; Far visual acuity of 20/60 or better binocular with or without corrective lenses.

DESIRABLE QUALIFICATION CRITERIA: In addition to the mandatory qualifications, experience in the following is desired: 1. Demonstrated knowledge with one or more of the following computer systems: MS Windows office applications, UNIX, UNIX scripting, FORTRAN, C, C++, UML, STK, MATLAB or MATHEMATICA.

2. Personal flexibility and adaptability for shifts(changes in crisis situations enabling the successful handling of unforeseen challenges inherent to working in a high-visibility environment.

3. Demonstrated knowledge managing complex acquisition and/or integration programs.

4. Demonstrated knowledge monitoring and/or analyzing satellite characteristics (hardware & software).

5. Demonstrated knowledge in scientific or statistical analysis.

Pay Range

$42,555.00 - $74,515.00

More information...

End Date:

Saturday, January 11, 2020