

Job Title: Technologist, Field Survey and Water Resources Engineering
Department: Civil and Environmental Engineering
Reports To: Technical Resources Manager
Jobs Reporting: None
Salary Grade: USG 8/9
Effective Date: December 2022

Primary Purpose

The Field Survey and Water Resources Technologist provides support for the Civil and Environmental Engineering Department, with a focus on Field Survey and Water Resources Engineering laboratories. Support encompasses the design, sourcing, construction, development, troubleshooting, and maintenance of research and teaching equipment with a focus on survey, remote sensing, hydraulics, and hydrology equipment. This includes supervising undergraduate students, graduate students, and contract technicians when they work in the labs.

Key Accountabilities

Provide Technical Support for Research Activities

- Supervise, instruct, and assist graduate students with their research and the use of laboratory equipment
- Assemble and commission major research apparatus
- Manage heavy lifting activities including forklift and crane operations
- Periodically complete extended field work campaigns in remote locations acting as onsite safety officer, field party chief, and assisting in data collection

Provide Technical Support for Students

- Supervise, instruct, and assist graduate and undergraduate students with project design and the use of laboratory equipment
- Assist the Water Resources Group with lab development
- Attend and assist with student labs and clinics

General Accountabilities

- Promote and maintain safety standards
- Manage assigned labs
 - Ensure that Chemical inventories and the SDS database are current and correct
 - Ensure that required workplace inspections are properly completed
 - Maintain, service, and repair research and teaching equipment
- Design, fabricate, and assemble custom jigs and fixtures used for leading edge research
- Be flexibly responsive to evolving research and teaching needs
- Develop and maintain relationships with external stakeholders (e.g. Environment Canada)
- Other duties as assigned

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- 3+ year Technologist diploma in Civil Engineering Technology or Environmental Engineering Technology, Bachelor of Geomatics, or equivalent combination of education and experience
- Transport Canada Remotely Piloted Aircraft Systems, Basic Operations certificate is required; Advanced Operations is an asset

Experience

- 2+ years of experience with survey, remote sensing, hydraulics, and hydrology equipment as well as all related methodologies, including demonstrated experience working at remote field sites

Knowledge/Skills/Abilities

- A strong aptitude for survey, water resources technologies/systems is essential.
- The incumbent must have good knowledge and operational experience in most of the following areas:
 - Total Stations, First-Order Differential RTK GPS systems and Auto Levels
 - Instrumentation and field data collection installations (hydrometric monitoring stations)
 - LIDAR DAQ systems, drone reconnaissance and other aerial/ground DAQ techniques
 - Selection, operation, and maintenance of pumps and pumping systems
 - Strong knowledge of fluid mechanics, open-channel hydraulics and hydrology
 - Surface and groundwater field methods, sampling, and related equipment
 - Management, maintenance, and repair of research equipment and lab infrastructure
 - Support of faculty and students in experimental aspects of undergraduate and graduate work
 - Safety standards and procedures
- Valid G Driver's License required
- First Aid Certification is an asset
- Survival Training is an asset

Nature and Scope

- **Contacts:** Provides technical support for students, faculty, and other technical staff. Must be able to effectively communicate with people at all levels of expertise.
- **Level of Responsibility:** The job has minimal supervision and provides direct guidance primarily to students with a focus on safety.
- **Decision-Making Authority:** This position makes significant independent decisions particularly as they relate to safety. Escalations are made to the Technical Resources Manager.
- **Physical and Sensory Demands:** Although normal days will not be physically challenging, some periods of time will require moderate to high levels of physical and emotional effort, and may require work in areas with loud continuous noise, requiring hearing protection. Field work may require long hours and adverse weather conditions and use of boats, driving of small trucks and trailers. The position requires the

person to balance many conflicting demands and priorities. There will be a significant amount of personal interaction with a wide variety of different cultural backgrounds and various project stakeholders.

- **Working Environment:** Working conditions vary and range from working at a computer, to bench work, work in heavy labs, and field campaigns of surveying and environmental monitoring and sampling. Working outside of normal hours might be occasionally required, as per the various requirements of field work campaigns.