**Department of Human Resources**

**OPSEU Job Description**

**Job Title:** Demonstrator/Technician

**Job Number:** SS-053

**NOC:** 4012

**Band:** 8

**Department:** School of the Environment

**Supervisor Title:** Director, School of the Environment

**Last Reviewed:** October 16, 2020

**Job Purpose**In co-operation with faculty, and under the general supervision of the Director, assist in the delivery of academic services in the School of the Environment by demonstrating and instructing in laboratories, classrooms and seminars. Ensuring that health and safety requirements are being met in laboratories. Assists in preparing teaching materials (e.g. manuals, assignments), supervising and coordinating Teaching Assistants, evaluating undergraduate student work, maintaining class records and tutoring students individually. Assist in the management of the School of the Environment (TSE) laboratories and provide technical support for teaching facilities used by faculty, undergraduates, graduates and research assistants. Purchase laboratory supplies and equipment, and help maintain the TSE program equipment budget. Participate in recruiting fairs, science facility tours and other science facility promotional activities. In agreement with the TSE Director serve on TSE related external and internal committees and organizations. Assist in community liaison and establishing student placement opportunities. Provide support to the Indigenous Environmental Studies/Science (IESS) Program.

**Key Activities**

1. In co-operation with other instructors, teaches, demonstrates, and supervises undergraduate student classes in laboratory, field (aquatic and terrestrial), and computer settings.
2. In co-operation with other instructors, teaches safety awareness and procedures and monitors student safety in laboratory and field classes.
3. Co-ordinates Teaching Assistants, including organizing work schedules, preparing and describing work tasks, monitoring work progress, and troubleshooting problems as they arise.
4. In co-operation with other instructors, organizes, researches, designs and prepares laboratory manuals, handouts, assignments and electronic instructional materials.
5. Evaluates undergraduate students as required on the basis of written work, laboratory reports, tests, essays, exams, and oral presentations.
6. Invigilates tests and exams.
7. Provides one-on-one instruction of undergraduate students who need assistance with course-related material, assignments, and computer-related problems.
8. Instructs faculty, researchers, and graduate students how to use analytical and sampling equipment.
9. Manages the laboratory section of the Blackboard for the School undergraduate courses as designated by the Director. Tasks include managing gradebook, laboratory assignments, quizzes and exams.
10. Assists graduate students and research assistants in equipment use, troubleshooting and choice of methodology.
11. Works with other staff members to ensure upkeep and repair of TSE departmental analytical and sampling equipment.
12. Prepares analytical and sampling equipment and supplies for field- and lab-based classes
13. Maintains a loan system for equipment, supplies, and teaching materials.
14. Maintains aquatic and terrestrial flora/fauna as required for course support.
15. Oversees implementation of Health and Safety regulations in laboratory and field courses with respect to WHMIS, TDG, and Hazardous Waste Disposal etc. Keeps and maintains record sheets of controlled substances (e.g. ethanol). Ensures that all chemicals used in assigned courses are regulated and appropriately stored and disposed.
16. Troubleshoots departmental instrument problems and liaises with instrument manufacturers to develop solutions. Liaises with instrument manufacturer technicians during the installation and repair of departmental instrumentation.
17. Maintains and keeps inventories of departmental equipment and supplies including chemical inventory.
18. Investigates and purchases laboratory supplies and departmental scientific equipment based on need and in co-operation with the other members of the Departmental Equipment Committee.
19. Maintains the Program’s equipment, supply and laboratory teaching budgets, and special project budgets.
20. Maintains and keeps an inventory of equipment (including AV) and teaching reference material to be loaned to undergraduates, graduates and faculty.
21. Available to undergraduate students for consultation regarding course related material.
22. Advises students on curriculum, timetable scheduling and course choicesParticipates in any internal or external committees as mutually agreed upon with the Director of the School.
23. Assists in the allocation of teaching assistants (GTAs and AAs) to TSE courses
24. Prepares reports and proposals for fundraising campaigns, program projects, and joint departmental projects.
25. Works with the TSE Director to promote recruitment, coordinating and leading science tours, and on-going contact with high schools.
26. Works with the TSE Director to establish community liaisons and student placement opportunities.
27. Assists in the preparation of promotional materials, and coordinates the setup and display of departmental promotional booths.
28. Actively promotes recruitment through attendance of Trent University Open houses and Ontario University fairs.
29. Is available as a resource to external science related organizations. (e.g. Science Fair, Peterborough Children’s Water Festival).
30. With the agreement of the TSE Director obtains/maintains training to facilitate job expectations (e.g. WHMIS, First Aid, Radiation Safety, Transport of Dangerous Goods, Driver’s License, Website Maintenance, Boat License etc.)
31. In consultation with the TSE Director, coordinates duties with the Director of the IESS Program.
32. Serves on the management committee of the IESS Program, providing input and follow-up for its development and operation.
33. Provision of technical and logistical support, and direct instruction of students in selected IESS courses offered by the School of Environment.
34. Works with the IES Director and TSE Director to adhere to the budget available for the IES program and maintains accurate and current records of financial transactions.
35. Works with the Director of IESS on the recruitment of students to the IESS Program, including leading IESS initiatives in selected recruitment fairs/symposia and preparing display, paper and electronic recruitment materials.
36. Liaises with and advises faculty and students who are involved with IESS and IESS courses as required.

**Education**

Masters of Science Degree.

**Experience Required**

1. Two years of directly related experience.
2. Thorough working knowledge of the discipline of Environmental and Resource Science.
3. Basic knowledge of geography, chemistry and biology. Ability to make solutions and run biological assay tests.
4. Demonstrated ability to work independently with minimal supervision.
5. Excellent interpersonal and communications skills (both oral and written).
6. Knowledge of computer operating systems, word processing, spreadsheet, and Internet applications.
7. Knowledge of procedures for obtaining information as needed through library, Internet, and personal contact sources.

**Responsibility for the Work of Others**

Direct Responsibility

Graduate Teaching Assistants and undergraduate academic assistants.

Student employees (e.g. IESS TWSP and Resource Center Employees)

Indirect Responsibility

**Communication**

Internal:

* Students: Teach and explain course material and evaluations.
* Demonstrators (within and outside department): Develop course material.
* Technicians: Troubleshoot, repair, and replace equipment. Discuss and arrange equipment sharing.
* Staff, Faculty, and other Instructors: Answer queries about course content, Trent policy, and technical issues.
* Faculty: Provide Department administration and service.
* Teaching Assistants: Explain assignments and troubleshoot problem situations.
* Liaison Office on recruitment and science facility tours
* Graduate students and research assistants: instruction on equipment usage and administration.
* Physical Resources: Identify, clarify, and arrange repairs and new projects.

External:

* Retailers and Manufacturers: Gather information about and order equipment; troubleshoot technical and equipment problems.
* Parents and prospective students: Act as a resource in recruitment efforts.
* TSE-related Community Organizations: Act as a resource.
* Technical Staff from equipment and instrumentation suppliers.
* External TSE related community organizations.
* Establish student placement opportunities with external organizations

**Motor/ Sensory Skills**

* Fine motor skills - manipulating equipment and measuring devices, data entry via keyboard and mouse
* Dexterity - precision in manipulating equipment and measuring devices
* Gross Motor Skills - moving analytical and sampling equipment, boats, and motors
* Hearing - responding to student and instructor queries
* Sight - reading reports and student assignments, precision in manipulating equipment and measuring devices
* Touch - precision in manipulating equipment and measuring devices

**Effort**

Mental:

* Sustained concentration - marking assignments, creating new hard copy and electronic educational materials, reading new material, analyzing problems, troubleshooting computer problems, working with equipment

Physical:

* Standing, Walking - teaching and demonstrating laboratory and field classes
* Lifting - moving equipment and rearranging laboratories and classrooms

**Working Conditions**

Physical:

* Injury - Operation of dangerous analytical and sampling equipment, exposure to dangerous materials, conducting field laboratories in an unpredictable outdoor environment
* Monotony - Data entry, sorting of student assignments
* Discomfort - Poor lighting and noise conditions

Psychological:

* Complaints - From instructors and students about timetable, marks
* Frequent coinciding deadlines - Many major tasks due simultaneously.
* Multiple competing demands - At any one time, many different active tasks (e.g., between different courses)
* No control over work pace - Deadlines and nature of work results in unavoidable busy periods
* Handling of student appeals - Angry students displeased with grades
* Interruptions - Emergency support and last minute changes interrupt planned activities and schedules