**Department of Human Resources**

**OPSEU Job Description**

**Job Title:** Demonstrator/Technician

**Job Number:** SS-053

**NOC:** 4012

**Band:** 9

**Department:** Trent School of the Environment

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

**Last Reviewed:** March 29, 2007

**Job Purpose**Assist in the delivery of academic services by demonstrating, instructing and teaching in laboratories, classrooms and seminars. Prepare teaching materials (e.g. manuals, assignments), supervise Teaching Assistants, evaluate undergraduate student work, maintain class records and tutor students individually. Assist in the management of the Environmental Resources laboratory and provide technical support for teaching facilities used by faculty, undergraduates, graduates and research assistants. Purchase lab supplies and equipment, and maintain the Trent School of the Environment program equipment budget. Participate in recruiting fairs, science facility tours and other science facility promotional activities. In agreement with the Director serve on Trent School of the Environment related external and internal committees and organizations. Provide support to the Indigenous Environmental Studies Program.

**Key Activities**

1. In co-operation with other instructors, teaches, instructs, 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. Organizes and supervises Teaching Assistants with respect to laboratory instruction, explaining the objectives of the lab components of the course and background information. Prepares and supplies the Teaching Assistants with evaluation guidelines for marking laboratory assignments.
4. In co-operation with other instructors, organizes, researches, designs and prepares lab manuals, handouts, assignments and electronic instructional materials.
5. Evaluates students on the basis of written work, lab reports, tests, essays, exams, and oral presentations. Invigilates tests and exams.
6. Teaches undergraduate students one-on-one, clarifying and troubleshooting course-related material, assignments, and computer-related problems.
7. Teaches faculty, researchers, and graduate students how to use analytical and sampling equipment.
8. Maintains academic records and communication tools (e.g., grades, exams, WebCT).
9. Assists graduate students and research assistants in equipment use, troubleshooting and choice of methodology.
10. Maintains and repairs departmental analytical and sampling equipment.
11. Prepares analytical and sampling equipment and supplies for field- and lab-based classes
12. Maintains a loan system for equipment, supplies, and teaching materials.
13. Maintains aquatic and terrestrial flora/fauna as required for course support.
14. Oversees implementation of Health and Safety regulations in laboratory courses with respect to WHMIS, TDG, and Hazardous Waste Disposal etc. Keeps and maintains record sheets of controlled substances (e.g. ethanol).
15. 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.
16. Maintains and keeps inventories of departmental equipment and supplies including chemical inventory.
17. 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.
18. Maintains the Program’s equipment, supply and laboratory teaching budgets, and special project budgets.
19. Maintains and keeps an inventory of equipment (including AV) and teaching reference material to be loaned to undergraduates, graduates and faculty.
20. Advises students on curriculum, timetable scheduling and course choices.
21. Participates in any internal or external committees as mutually agreed upon with the Director.
22. Participates in Trent School of the Environment meetings.
23. Prepares reports and proposals for fundraising campaigns, program projects, Academic Innovation Fund, and joint departmental projects.
24. Works with Director in recruitment, through development of promotional materials.
25. Works with Director to promote recruitment, coordinating and leading science tours, and on-going contact with high schools.
26. Assists in the preparation of promotional materials, and coordinates the setup and display of departmental promotional booths.
27. Actively promotes recruitment through attendance of Trent University Open houses and Ontario University fairs.
28. Is available as a resource to external science related organizations. (e.g. Science Fair, Peterborough Children’s Water Festival).
29. With the agreement of 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.)
30. Provides support for the Indigenous Environmental Studies Program.
31. Coordinate duties with the Director of the Indigenous Environmental Studies Program.
32. Serve on the management committee of the Indigenous Environmental Studies 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 Indigenous Environmental Studies courses.
34. Participates in the preparation of course outlines and academic materials for Indigenous Environmental Studies courses.
35. Works with the Director to adhere to the budget available for the Indigenous Environmental Studies program and maintains accurate and current records of financial transactions.
36. Works with the Director of Indigenous Environmental Studies on the recruitment of students to the Indigenous Environmental Studies Program, including leading Indigenous Environmental Studies initiatives in selected recruitment fairs/symposia and preparing display, paper and electronic recruitment materials.
37. Cooperates in the preparation of postings, funding appeals and accountability documents for the Indigenous Environmental Studies Program.
38. Liaise with and advise faculty and students who are involved with Indigenous Environmental Studies courses as required.

**Education**

Master’s Degree.

**Experience Required**

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

**Responsibility for the Work of Others**

Direct Responsibility

Teaching Assistants. Authority for direct responsibility is delegated by the course coordinator.

Indirect Responsibility

Teaching Assistants

**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.
* Trent School of the Environment-related Community Organizations: Act as a resource.
* Technical Staff from equipment and instrumentation suppliers.
* External Trent School of the Environment related community 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 labs 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