#### Trent University LogoOPSEU JOB DESCRIPTION

**Job Title:** Demonstrator

**Job Number:** SS-007 | VIP: 1313

**Band:** OPSEU- 8

**Department:** Chemistry

**Supervisor Title:** Chair, Chemistry

**Last Reviewed:**  September 26, 2022

#### **Job Purpose:**

In co-operation with faculty and staff, and under the supervision of the Department Chair, the Demonstrator delivers the following services to first year chemistry courses:

* Prepares teaching materials such as manuals, laboratory procedures, marking schemes, teaching assistant preparatory notes, assignments, and supporting lab documents.
* Supervises and coordinates laboratory teaching assistants.
* Manages the lab section of the BlackBoard LMS.
* Grades student assignments, provides tutoring, and responds to student emails.
* Ensures that health and safety requirements are being met in the laboratories.

#### Key Activities:

##### Student/Course/Department Support

1. Provides primary teaching support in the first-year laboratory setting and responsible for groups of first year students in the laboratory, including providing one-on-one tutoring of individual students. Responsible for multiple laboratory sections that run simultaneously. Provides primary teaching support in the laboratories and is responsible for groups of students in the laboratory, including providing one-on-one tutoring.
2. With the course instructor, designs and writes laboratory protocols, theory, procedures, laboratory report templates, assignments, and supporting laboratory materials (including updates to Student Laboratory Handbook). With the chemical technician, develops operating and safety instructions for new equipment and instrumentation for laboratory use.
3. Prepares and organizes laboratory, tutorial, extra help sessions for first year chemistry courses. Prepares and provides teaching assistants with preparatory notes for instructing/demonstrating experiments and tutorials. With the instructor, prepares answer keys and marking schemes for Laboratory Report grading.
4. Prepares and monitors pre-lab quizzes. To ensure safe practices in the lab, confirms that students have completed the mandatory assignments and are prepared to complete the assigned experiment.
5. Acts as point of first contact for teaching assistants when issues arise with respect to grading of laboratory reports, or in the laboratory setting (e.g., unexpected results, equipment errors, troubleshooting, etc.)
6. Demonstrates proper technique for use of specialized laboratory equipment to students and teaching assistants and sets up equipment for demonstration to students.
7. Evaluates lab reports, pre-lab quizzes, and other assignments in the first year chemistry courses.
8. Assists with web-based content and computer technology for the first year chemistry courses in consultation with faculty. Manages the lab section of the BlackBoard LMS for the first year chemistry courses as designated by the instructor. Tasks include managing gradebook, lab assignments and quizzes, announcements, and lab course content. Manages assignment drop boxes, including scheduling adaptive releases. Organizes students into laboratory groups.
9. Co-ordinates and works with the course instructor to train and supervise student teaching assistants (GTAs and AAs). Schedules training sessions for teaching assistants as required.
10. Manages teaching assistant absences, including finding replacements or filling in, when necessary, often on short notice.
11. To meet the learning outcomes of the course, works with the instructor to ensure consistency between lab sections and to optimize the student experience in the laboratory.
12. Responds to student email correspondence. Meets with students and provides one-on-one instruction as needed.
13. Responsible for tracking student absences in the laboratory, and, in consultation with the instructor, manages student lab assignment exemptions or provides alternative arrangements for missed assignments.
14. Develops and maintains student attendance and equipment sign out sheets.
15. Under general direction from the course instructor, assists with development of experiments for undergraduate courses including design assistance, modification of existing experiments and preliminary trials of new experiments. Troubleshoots experiments when necessary.
16. Responsible for filming and editing laboratory technique videos and instructions, using filming editing software, when needed.

##### Health & Safety

1. In co-operation with the chemical technician and instructor, teaches health and safety awareness and procedures to teaching assistants and students. Monitors student and teaching assistant safety within the laboratory.
2. Oversees implementation of Health and Safety regulations in designated laboratory with respect to WHMIS and Hazardous waste.
3. Helps ensure lab safety regulations are observed and teaching lab equipment is in safe working order.
4. Works with students to accommodate medical and physical conditions to allow for safe completion of laboratory exercises.

##### Laboratory Equipment & Inventory

1. Works with other staff members to ensure upkeep, repair and organization of Chemistry equipment and facilities (e.g., pH meters, analytical balances, melting point apparatuses, burettes, etc.).
2. Liaises with the chemical technician and instructor to suggest recommendations for equipment purchases and upgrades, as necessary, for annual equipment budget.

##### Other

1. Provides feedback to course instructors on laboratories and offers suggestions for improvement.
2. Works with Chemistry Academic Administrative Assistant with respect to laboratory section scheduling based on equipment limitations and space.
3. Participates in any internal or external committees as agreed upon with Chemistry Chair
4. Serves as back-up chemical technician as needed
5. Functions as a Fire Warden in a designated area of the Chemical Sciences Building
6. Other duties as assigned.

#### Education Required:

* Master of Science Degree in Chemistry or related discipline.
* Post-Secondary Teaching experience an asset.

#### Experience/Qualifications Required:

* Two years of experience as a demonstrator in a post-secondary academic environment.
* Specific knowledge of the operational methods for a variety of scientific equipment.
* Strong presentation skills; experience facilitating labs and managing both large and small groups.
* Excellent administrative and organizational skills.
* Excellent oral and written communication skills.
* Proficient in the use of computer applications; Intermediate level of computer skills in Microsoft Word, Excel, PowerPoint, Blackboard (or related LMS). E-mail and Internet application essential.
* Demonstrated skills in, and commitment to, exceptional student experience, and continuous improvement.
* Proven ability to work both independently and as a team.
* First Aid Training an asset.

**Job Evaluation Factors:**

##### Responsibility for the Work of Others

Direct Responsibility

* Oversees teaching assistants and tutorial Leaders (including Graduate Teaching Assistants, Academic Assistants and CUPE Laboratory Demonstrators; authority for direct responsibility is delegated by the course instructor)

Indirect Responsibility

* Marking Assistants
* Chemical technician assistants

##### Communication

Internal:

* With students: teaching, assignment and report critique, adherence to safety protocols, explanation of complex concepts, demonstration of the operation of laboratory equipment/instruments or techniques.
* With technicians: equipment repair & replacement, equipment and reagent needs; inventory.
* With staff and instructor: laboratory procedure & marking scheme development, answer queries.
* With teaching assistants: explanation of assignments, demonstration of techniques.
* With departmental faculty: discussion of department business.
* With computer technicians: addressing hardware and software problems.
* With technicians from other departments: to discuss sharing of equipment or spaces, other inquires.

External:

* With chemistry suppliers and manufacturers: gather information, determine price and availability of supplies/equipment, troubleshoot issues and secure supplies/repairs/returns.
* With the Trent Community: to act as a resource, for example open house and tours
* With parents and prospective students: to act as a resource in recruitment efforts

##### Motor/ Sensory Skills

* Fine Motor Skills: keyboarding and data entry
* Dexterity: precision in manipulating equipment and measuring devices, demonstration of difficult techniques
* Hearing: responding to student and faculty queries
* Sense of Smell: ability to detect characteristic chemical odors which point to unwanted or unsafe levels in laboratories or solvent storage, thereby alerting one to possible fume hood failure, inadvertent spills, container leaks, etc.
* Visual: reading/grading reports and assignments.
* Touch: precision in manipulating equipment and measuring devices

##### Effort

Mental:

* Requires continuous vigilance to ensure awareness of safety in the laboratory, operating lab sections simultaneously.
* Listening: required when receiving verbal instructions on laboratory revisions, etc. by faculty, required when addressing student questions relating to laboratory exercises.
* Decision making and reasoning: Solving issues due to student and teaching assistant absences (often on short notice), student issues and accommodations.
* Sustained concentration: marking assignments, reading new material, creating teaching materials, analyzing problems, troubleshooting analytical and equipment issues.

Physical:

* Standing, Walking: administering laboratory sections
* Lifting: moving equipment and rearranging labs/classrooms.

##### Working Conditions

Physical:

* Risk of exposure to potentially dangerous chemical skills. These materials need to be cleaned up, when spilled or when laboratory is complete, in a safe manner to minimize risk of exposure.
* Risk of exposure to noxious odors when certain activities are done.
* Risk of repetitive strain due to data entry, prolonged standing during lab delivery.

Psychological:

* Dealing with complaints from faculty and students about timetables, grades, conflicting work priorities and deadlines - labs, manuals, assignments
* Dealing with angry students upset with grades, and the handling of student appeals
* Making decisions that affect students, staff, and faculty
* Dealing with interruptions from students, teaching assistants, staff, and faculty, as well as emergency support and last-minute changes that can interrupt planned activities and schedules.
* Dealing with a lack of control over pace of work - deadlines and the nature of the work result in unavoidable busy periods, running simultaneous lab sections, and the academic term “end rush”.
* Handling multiple competing demands while coordinating different components of the courses
* Handling a variable work schedule