**Department of Human Resources**

**OPSEU Job Description**

**Job Title:** Demonstrator (Graduate)

**Job Number:** SS-079

**NOC:** 4012

**Band:** 8

**Department:** Forensic Science

**Supervisor Title:** Chair, Forensic Science

**Last Reviewed:** March 2, 2022

**Job Purpose**

In co-operation with faculty and under the general supervision of the Department Chair and the MScFS Director, provides educational support to the Forensic Science Department (with a primary focus on MScFS courses) by instructing in laboratories; preparing teaching materials (e.g., manuals and assignments), supervising and coordinating Teaching Assistants, evaluating student work, ensuring that health and safety requirements are being met in laboratories, assisting in the upkeep of the Forensic Science Department laboratories and teaching facilities, and providing technical support for the use of analytical and computer technologies.

**Key Activities**

Student/Course/Departmental Support

1. Prepares and provides primary technical support and demonstrates in practical sessions in assigned Forensic Science courses offered in Forensic Science laboratories or the Forensic Crime Scene Training Facility (FCSF) or in the field. Regular laboratory instruction of complex concepts and techniques are required at the upper year undergraduate level or graduate level.
2. In conjunction with the course instructor, designs and writes laboratory protocols, procedures, assignments, and rubrics. Develops operating and safety instructions for new instrumentation for use in laboratory manuals.
3. Co-ordinates and works with the course instructor to train and supervise teaching assistants (TAs) when teaching upper year undergraduate or graduate courses. Organizes work schedules, assigns marking and other tasks to TAs, monitors work progress and troubleshoots problems as they arise.
4. Evaluates laboratory reports, assignments, and oral presentations in assigned Forensic Science courses.
5. Invigilates upper year undergraduate and graduate exams.
6. Responds to student email correspondence. Provides one-on-one instruction to upper year undergraduate or graduate students who need assistance with course related material, assignments, and computer-related problems.
7. Manages the laboratory section of the BlackBoard website for Forensic Science undergraduate courses as designated by the Department Chair, or graduate courses assigned by the MScFS Director. Tasks include managing grades, laboratory assignments and laboratory quizzes, announcements, laboratory course content, and monitoring the discussion forum.
8. Prepares solutions, supplies, analytical equipment, and computer hardware and software for designated undergraduate and graduate courses.

Health and Safety

1. In co-operation with other instructors, teaches health and safety awareness and procedures to teaching assistants and students and monitors student safety in laboratory and field classes.
2. Oversees implementation of Health and Safety regulations in designated laboratory and field courses with respect to WHMIS and Hazardous waste. Deals with MScFS course scientific waste disposal (e.g., chemical waste, biohazardous waste, biological waste). Works with the Science Facilities department, Biosafety Officer, and suppliers to develop handling, disposal, spill, and emergency protocols for new laboratory chemicals for MScFS courses. Keeps and maintains record sheets of controlled substances (e.g., Ethanol).
3. Helps ensure laboratory safety regulations are observed, and teaching laboratory equipment is in safe working order.
4. Work with Risk Management, Science Facilities, and The Office of Research and Innovation to develop lab material to work with student biological and biometric material safely and ethically.
5. Functions as a Fire Warden in a designated area of the DNA Building.

Laboratory Purchasing and Budgeting

1. Responsible for researching, ordering, and maintaining stocks of teaching supplies and teaching laboratory equipment for MScFS specific courses.
2. Manages the MScFS laboratory budget as assigned by the MScFS Director.
3. Liaises with the laboratory demonstrator who is charged with the overall Forensic Science Departmental laboratory budget.

Laboratory Equipment and Inventory

1. Establishes and maintains an inventory of laboratory supplies, chemicals, and equipment for assigned MScFS courses.
2. Maintains an inventory system for use in conjunction with laboratory equipment loans and outside activities.
3. Works with other staff members to ensure upkeep, repair and organization of Forensic Science laboratory equipment and facilities associated with MScFS courses.
4. Instructs faculty, researchers, and graduate students how to use departmental equipment.

Miscellaneous

1. Attends outreach events as assigned by the Department Chair or MScFS Director.
2. Participates in any internal or external committee as agreed upon with the departmental Chair or MScFS Director.

**Education**

Master of Science Degree in Forensic Science, Biology, Chemistry or related discipline. Graduate level laboratory, teaching, and supervision experience is preferred.

**Experience Required**

1. Minimum of two years’ laboratory experience, with preference given to those individuals with experience using the Forensic techniques utilized in the laboratories to be set up.
2. Detailed working knowledge of Forensic Science, Biology, and/or Chemistry.
3. Valid Ontario Driver’s License (Class G) required.
4. Valid First Aid Certificate desirable.
5. Excellent computer skills: demonstrated proficiency with Microsoft Office Suite; E-mail and Internet applications essential.
6. Excellent organizational and problem-solving skills.
7. Excellent interpersonal skills.
8. Excellent oral and written communication skills.
9. Proven ability to work both independently and as part of a team.
10. Demonstrated initiative.

**Responsibility for the Work of Others**

Direct Responsibility

Teaching Assistants (including Graduate Teaching Assistants, CUPE Laboratory Demonstrators, and Academic Assistants; authority for direct responsibility is delegated by the course instructor), Co-op students, Placement Students.

Indirect Responsibility

Assists the Department Chair or MScFS Director in training other demonstrators in the department including their awareness of and adherence to departmental and university practices and policies.

**Communication**

Internal

* Students: explain complex concepts, demonstrate the operation of an instrument or laboratory technique, explain course material and evaluations
* Staff, Faculty, and other Instructors: answer queries about course content, Trent policy, and technical issues
* Faculty: discuss/educate on time/space/budget/logistical limitations of laboratory exercises, discuss changes to laboratory exercises, either technical or logistical for assigned Forensic Science courses
* Teaching Assistants: explanation of activities, set up, assignments, troubleshoot problem situations; allocation of grading responsibilities
* Computer Technicians: troubleshoot and repair hardware/software problems
* Demonstrators (within and outside department): develop course material, arrange space, and equipment use
* Science Facilities: chemical/biohazard handling, storage and disposal, protocol development
* Physical Resources: maintain facilities, secure services for MScFS courses
* Risk Management and The Office of Research and Innovation: Develop lab activities involving student biological and biometric data

External

* Suppliers/manufacturers: gather information, determine price and availability of supplies/equipment, troubleshoot issues and secure supplies/repairs/returns for MScFS courses
* Technical Staff from other companies/institutions: research products and techniques, troubleshoot technical and equipment problems
* Trent Community: act as a resource
* Prospective MScFS students: act as a resource in recruitment efforts

**Motor/ Sensory Skills**

* Fine Motor Skills – manipulating equipment and measuring devices, accurately preparing solutions and chemicals, keyboarding and data entry
* Dexterity – precision in manipulating equipment and measuring devices, labelling and manipulation of small vials; demonstrate difficult techniques
* Hearing – responding to student and faculty queries, detecting changes in sounds of operating equipment to prevent accidents/injuries, grading students’ oral presentations
* Sight – reading/grading reports and assignments, precision in manipulating equipment and measuring devices, visual acuity for grading photography/evidence development assignments, ability to operate a vehicle for transportation to field locations
* Touch – precision in manipulating equipment and measuring devices

**Effort**

Mental

* Sustained concentration – reading new material, creating new teaching materials, troubleshooting analytical results and equipment issues, analyzing student data and results, inputting data into spreadsheets, using software and working with analytical equipment

Physical

* Standing, Walking – administering labs
* Lifting – Moving equipment and rearranging labs/classrooms. Receiving shipments

**Working Conditions**

Physical

* Injury – operation of dangerous equipment, exposure to dangerous materials, conducting field laboratories in unpredictable weather
* Repetitive strain – data entry, prolonged standing during laboratory prep and delivery, prolonged sitting and working at a computer
* Discomfort – poor lighting, temperature, and noise conditions

Psychological

* Complaints – complaints from faculty, instructors, and students
* Conflicting work priorities and deadlines – labs, manuals, assignments
* Frequent coinciding deadlines – many major tasks due simultaneously
* Multiple competing demands – at any one time, many different active tasks (e.g., between different courses, ordering, recruitment)
* Handling of student appeals – angry students upset with grades
* Interruptions – interruptions from students, staff, and faculty
* Lack of control over pace of work – deadlines and nature of work results in unavoidable busy periods
* Variable work schedule – Lab coverage required from 8am to 10pm, set up may need to be done between those times
* Sustained periods of concentration