

## Job Description

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<b>Job Title:</b>	Analytical and Bioanalytical Services Technician
<b>Department:</b>	Chemistry
<b>Reports To:</b>	Department Chair
<b>Jobs Reporting:</b>	None
<b>Salary Grade:</b>	USG 8
<b>Effective Date:</b>	March 2024

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### **Primary Purpose**

The Analytical and Bioanalytical Services Technician provides support to the undergraduate analytical labs and Mass Spectrometry Facility. The Technician is experienced and has a sound understanding of analytical instrumentation, including GC, GCMS, HPLC, LCMS, IC and ICPMS and is responsible for the set-up and preparation of all instruments as well as general maintenance and troubleshooting.. The Technician will also help service and repair the instrumentation suite when possible. The Technician preps and runs samples in the Mass Spectrometry Facility and is back-up support when the Facility Manager is away.

### **Key Accountabilities**

#### **Analytical Undergraduate Laboratory Support and Maintenance**

- Responsible for the set-up and preparation of all analytical instruments prior to the lab periods and the introduction of the experiment and overseeing students;
- Provides instrument and software maintenance and troubleshooting for the undergraduate Analytical Laboratories, including GC, GCMS, HPLC, LCMS, IC and ICPMS;
- Responsible to be available through the evenings for undergraduate labs in two of the three terms.
- Labs are usually 5 x 3h lab in the Fall term (e.g. Chem 220L), 2 x 6h lab in the Winter term (e.g. Chem 224L), and 4 x 6h lab in the Spring term (e.g. Chem 224L) with about 25 students per lab session (275 students per year);
- Responsible for instrument maintenance over holiday shutdown periods;
- Responsible for training and supervision of all TAs (~10 per term) in the undergraduate analytical instrumental lab;
- Involved in method development of new experiments for undergraduate Analytical Labs in collaboration with the Analytical Lab Instructor;
- Provides input on Chemical ordering for the labs. ere

#### **Mass Spectrometry (MS) Facility Support and Maintenance**

- Responsible to run samples for the MS Facility primarily on the Bruker Maldi instrument;
- Responsible to provide training to faculty, graduate/research students and PDFs on the Mass Spectrometry instruments including instructing them on the routine instrument maintenance necessary to ensure their safe and reliable operation;
- Provides training in chromatographic procedures for protein purification and in the maintenance of the chromatographic instrumentation;
- Provides back-up to the Mass Spectrometry Facility Manager during absences;
- Responsible for instrument maintenance over holiday shutdown periods;
- Provides instrument and software maintenance and troubleshooting support;
- Assists with experimental design with the MS Facility Manager as needed;

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- Runs samples and prepares data files for external users;

### **Safety**

- Assist the Analytical Laboratory Instructor and Mass Spectrometry Manager with maintaining the first aid kit, spill kit, posts safety procedures including WHMIS, hazardous waste disposal etc. in the lab/facility;
- Prepare and maintain Standard Operating Procedures (SOPs) in the Analytical Lab;
- Conduct regular safety inspections in the Analytical Lab and Mass Spec Facility and advise of safety issues identified. Completes the monthly safety inspections in Safely for the laboratory and facility as needed;
- Enforce safety training and requirements for all lab users;
- Prepare and maintain chemical inventory in accordance with UW and legislative requirements in the Analytical Lab and Mass Spec Facility;
- Supports maintaining a safety culture in the analytical labs and Mass Spec Facility and assists with providing equipment safety training to students.

### **Other**

- Serve as an additional technical resource for departmental faculty, researchers, and students in troubleshooting issues with analytical and mass spectrometer equipment in the department;
- Provide support and advice in the maintenance and servicing of existing analytical instrumentation department wide;
- Serve as a support person in other areas of department operations as required on an occasional and short-term basis as assigned by the Department Chair.

*\*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**

- MSc in Science is required; Analytical or Bioanalytical Chemistry is preferred
- A PhD degree is an asset

### **Experience**

- Minimum 2 years of experience in an academic or industrial setting utilizing instrumentation including HPLC, LC and/or GC
- Experience troubleshooting and working with scientific equipment is required which may include HPLC, LC/GC, IC. Mass Spectrometers may include ICAPQ, ISQ, MSQ, Q Exactive Orbitrap, LTQ, QTOF, MALDI TOF

### **Knowledge/Skills/Abilities**

- Experience with the operation, maintenance and troubleshooting of HPLC, LC and/or GC equipment required
- Experience with mass spectrometric techniques required
- Experience with instrument software required. Examples may include: Thermo Chromleon, Excaliber, Qtegra, Waters Masslynx, Agilent Chem Station, Bruker Flex Control and Analysis
- Safety training in General Laboratory Safety, Laboratory Biosafety, WHMIS, and Compressed Gas training is an asset.

## **Nature and Scope**

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- **Contacts:** Significant internal relationships include Department Chair, Analytical Laboratory Instructor, Mass Spectrometry Facility Manager, Chemistry faculty, graduate students, and undergraduate students. Significant external relationships include suppliers (e.g. Thermo, Bruker, Waters, Agilent), Science Technical Services, Information Technology, and Plant Operations. Needs to communicate clearly and effectively with students in laboratory settings, staff, and faculty members, as well as the equipment and or/software suppliers. Must be able to train students and researchers on the proper use of analytical and mass spectrometer equipment.
- **Level of Responsibility:** The position has specialized work with minimal supervision and provides guidance to others. Responsible for high valued instruments under his/her supervision. (\$500K, in analytical lab, \$3.7M in the Mass Spec Facility). Must ensure a safe lab/facility experience for all students and users of the Analytical Lab and Mass Spectrometry Facility.
- **Decision-Making Authority:** The incumbent is expected to make decisions regarding best use and maintenance needs of instrumentation used in the Analytical Lab and Mass Spectrometry Facility. Must be able to assess technical skills of student users and establish their access appropriately. Escalations are made to the Laboratory Instructor, Facility Manager and/or Department Chair.
- **Physical and Sensory Demands:** Attention to detail is required. Necessary to have expert technical skills regarding column maintenance and gas and solvent handling. Must be able to handle hand tools and perform delicate technical adjustments on equipment.
- **Working Environment:** Laboratory based environment with groups of 25+ students present at any time. Facility environment with exposure to loud noise when the equipment is running. Evening, weekend and/or holiday hours are required.