

## POSITION SUMMARY

### QUEEN'S UNIVERSITY - GENERAL STAFF

---

POSITION TITLE: Program Associate  
DEPARTMENT: Physics  
POSITION NUMBER: 00504672  
GRADE: 7  
EFFECTIVE DATE: July 1, 2018

---

#### **JOB SUMMARY:**

Under the guidance of the Course Coordinators and reporting to the Department Manager, the Program Associate is responsible for experimentally-based curriculum support in the delivery of lab courses offered by the Physics department. Specific course assignment is subject to change at the discretion of the Department Manager in consultation with the Course Coordinators and the Department Head.

#### **KEY RESPONSIBILITIES:**

##### **Duties and Responsibilities PHYS and ENGPHY 3<sup>rd</sup> and 4<sup>th</sup> Year Labs and Engineering Design Courses**

- The course coordinators are ultimately responsible for all content in both the lecture and lab sessions. Under the guidance of the course coordinators and in consultation with the Department's lab technicians, the incumbent will be responsible for:
- Developing new lab content – on average, several per year. Under the direction of the course coordinators, define and oversee the activities that will be undertaken by undergraduate summer students and department technicians.
- Ordering equipment and supplies, training TAs, maintaining lab safety, managing course budgets, and if requested, maintaining course web sites, and assisting with Learning Management Systems. Ensure that an up-to-date inventory of all supplies and equipment is maintained. Regularly test and assess the safety and functionality of all equipment used in the labs.
- Using scientific methods and Physics principles during the development of new lab experiments including testing, preparing and conducting new lab procedures, and observing and appropriately recording results to ensure consistency and verify expected outcomes for the experiments.
- Testing and implementing the undergraduate student lab program for particular courses under the guidance of the respective course coordinator(s). Regular setup and testing of lab experiments prior to the lab; preparing experiments that require unique setups such as the super-cooling of samples; working with cryogenic fluids (e.g., liquid nitrogen, helium) as required and performing other maintenance duties. This work may involve hazardous materials or somewhat dangerous equipment.
- Using both judgment and personal initiative to adapt lab procedures as required to achieve desired learning outcomes.
- Managing both the undergraduate student lab program, and some aspects of general course logistics, using independent judgment to adapt procedures as the need arises.
- Coordinating all aspects of the lab activities, in a timely fashion (often well in advance of course start dates), including but not limited to: ensuring that lab supplies are well stocked; working with the Department radioactive licence coordinator to apply for and maintain all required licenses for sealed radioactive sources; maintaining software licenses and performing any software upgrades on computer used in the teaching labs; accommodating special needs of students; training and directing graduate student teaching assistants for the teaching labs.

- Verify that experiments are working properly by analyzing the data and interpreting results, including use of appropriate software for these purposes (e.g., LabView, CAD, Excel, Python, Matlab, etc.)
- Responding to student enquiries on lab or logistic issues or redirecting students to the appropriate office either within the department or elsewhere on campus. However, the course coordinator will be responsible for dealing with personal issues that students might encounter during the course.
- The incumbent is required to use and upgrade computers used for data entry, data processing, and presentation of results and assessing the outcomes from the labs.
- Ensuring compliance with safety guidelines and relevant university regulations.
- Communicating with other staff, technicians, labs, and/or faculty or departments not directly involved in the undergraduate teaching labs.
- May provide limited administrative support to the course coordinators by maintaining group lists, web sites, overseeing project budget spending, dealing with urgent experimental issues, and responding to relevant student enquiries.
- Learning about, complying, and developing with all aspects of the Environmental Health and Safety operating procedures and policies regarding working in teaching labs.
- Modify labs as required to ensure accessibility for all students, including those that require accommodation based on disability.
- Potentially working with hazardous materials or equipment.
- Collaborate with instructors and teaching assistants to facilitate effective teaching and demonstration strategies for improving the undergraduate learning experience in the teaching labs.
- Provide work direction and technical/functional guidance to undergraduate students in the teaching labs.
- Undertaking other duties as delegated by the course coordinators and/or the Department Manager in support of the Department.

#### **REQUIRED QUALIFICATIONS:**

- A Master's degree in a relevant discipline (e.g., Physics, Astronomy, or Engineering Physics), or a Bachelor's degree in a relevant discipline with at least four years of laboratory/technical experience beyond the Bachelor's.
- Extensive hands-on experience working in a lab is essential.
- Some relevant laboratory work experience in a teaching environment is preferred.

#### **SPECIAL SKILLS:**

- Ongoing commitment to professional development in essential skills that are core to a Physics and/or Engineering Physics undergraduate program.
- Technical proficiency in the use, repair, and maintenance of complex lab equipment and skill in use of precision instruments. Careful and critical observational skills.
- Organizational, problem-solving, and analytical skills. Judgment in choosing best protocols or procedures to meet changing needs.
- Technical/scientific writing skills would be beneficial, and other communication skills in order to facilitate information sharing between labs and other departments on campus.
- Care in handling of sealed radioactive sources, operating equipment, and preparing samples.
- Computer skills to aid in the analysis and presentation of data.
- Supervisory and leadership skills to provide direction and instruction to graduate student teaching assistants.
- Interpersonal and communication skills (verbal and written) to deal with students, staff, other labs and departments, and agencies. Ability to collate and analyze data and generate a coherent, concise report if required.
- Ability to adapt quickly to changing circumstances and make accommodations on an independent basis, while keeping within the guidelines and goals of the lab(s) for which the incumbent is responsible.

**DECISION MAKING:**

The course coordinators are ultimately responsible for all content in both lecture and lab/field sessions. Under the course coordinators' guidance, the incumbent makes decisions regarding experimental approach, adapting protocols and procedures as required in developing curriculum content for the undergraduate teaching labs. Specifically, the incumbent will:

- Assess progress and determine alternative methods and/or develop novel experimental approaches to teaching lab procedures.
- Allocate work to graduate student teaching assistants and meet with the TA's on a regular basis to ensure lab sessions are coordinated and consistent across all groups.
- Determine which equipment needs to be repaired, replaced, or acquired, and research and make recommendations regarding supplier or manufacturer.
- Provide information about best methods to the course coordinator and/or the Department Manager.
- Determine the appropriate way to adhere to safety guidelines and react in an emergency situation to minimize damage.
- Determine when a situation has the potential for causing a serious accident and consult with the course coordinator, Department Manager, and Department Safety Officer to proactively prevent such occurrences.
- Make recommendations regarding the lab budget and consult with Department Manager on an ongoing basis to manage the courses' financial and infrastructure resources.

**APPLICATION INSTRUCTIONS:**

To apply, please click [HERE](#) to be redirected to the job ad on the Queen's University Careers Page, and click the "I am Interested" button at the bottom of the page. Online instructions will guide you through the remainder of the process.