

## Job Description

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<b>Job Title:</b>	Laboratory Demonstrator and Observatory Coordinator
<b>Department:</b>	Physics & Astronomy
<b>Reports To:</b>	Instructor
<b>Jobs Reporting:</b>	None
<b>Salary Grade:</b>	8
<b>Effective Date:</b>	May 2019

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### **Primary Purpose**

The Lab Demonstrator and Observatory Coordinator position is directly involved with all aspects of laboratory course setup, instruction and assessment. Responsibilities include setting up lab equipment, lab teaching, report marking and exam grading, as well as supervision of graduate TA's.

### **Key Accountabilities**

#### **Course Instruction**

- Provides an advanced level of guidance, instruction and technical assistance to students enrolled in undergraduate physics lab courses.
- Marks student assignments and tests or oversees the marking performed by TAs.
- Conducts tutorials and demonstrations relating to lab content.
- Responsible for the content, development and administration of lab assignments, tests and exams.
- Develops lab manuals, teaching aid materials and web-based learning materials.
- Monitors students' lab progress by evaluating reports and lab exams in the technical and theoretical aspects of the subject matter, and providing timely feedback on their submissions.
- Ensures academic integrity is maintained in the lab courses.
- Oversees student matters (late enrollments, attendance, special situations).
- Assists students on an individual or group basis with lab and related assignments/problems.
- Develops syllabi and LEARN sites for assigned courses.
- Sets and manages due dates, handles communication with TAs for student submissions.
- Maintains an awareness of current innovations in the area Physics and Physics education, and where feasible, incorporates them into the laboratory curriculum.

#### **Laboratory Operations**

- Constructs, sets up, tests and removes equipment used in lab experiments
- Monitors equipment performance to ensure adequate quality and safety control, and arranges required maintenance.
- Responsible for the checking and storing of lab equipment and the care, maintenance and upkeep of all undergraduate laboratory equipment and systems.
- Maintains an up-to date inventory of equipment and recommends purchases to keep current with evolving technology.
- Develops lab specific safety procedures and ensures that the facility functions according to all applicable safety rules and regulations.

## Job Description



### **Supervision**

- Supervise graduate TAs assigned in undergraduate lab courses.
- Meet with TAs to review expectations and responsibilities and distribute course information and marking schemes.
- Monitor TA performance, grading results, and provide feedback and mentoring.

### **Astronomy Outreach Events**

- Ensure that monthly public tours of the observatory are advertised and run professionally and effectively
- Provide training to assistants and observatory tour guides
- Aid in the procurement and repair of equipment used for astronomy outreach events

*\*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**

- BSc Physics or Astronomy is required

#### **Experience**

- 3-5 years' experience with physics and astronomy laboratory equipment and systems of equipment.
- Experience with scientific computation, analysis and graphing software an asset.
- Lecturing, mentoring and supervisory experience an asset
- Technical writing skills is an asset

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

- Proficiency with the operation and use of a very wide range of scientific measurement apparatus.
- Advance knowledge of observational astronomy.
- Excellent verbal and written skills
- Ability to multitask
- Strong analytical, technical and problem-solving skills

### **Nature and Scope**

- **Contacts:** Works closely with the Instructor, graduate student teaching assistants, students enrolled in Physics and Astronomy courses
- **Level of Responsibility:** The job has specialized work with minimal supervision and has direct reports reporting to it.
- **Decision-Making Authority:** The position requires making decisions as to the academic integrity and the report grades assigned to undergraduate student submissions, as well as the overall final student evaluation for any lab course to which the demonstrator is assigned. Authority will defer to the Instructor, or the department chair in any unresolved or contested circumstances.
- **Physical and Sensory Demands:** The candidate will be required to do some moderate lifting. The position also requires a moderate amount of walking and standing
- **Working Environment:** The work is teaching laboratory and office based, with a possibility of exposure to interactions with people who are upset or angry. There is occasional work in

## Job Description



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environments with hazardous substances (Chemicals, radioisotopes, compressed gases, cryogenic fluids, x-rays). Some night work required in support of the astronomy labs and outreach events