**COURSE: BIOL-212 Scientific Methods in Biology**

**TERM: Fall 2024 AND Winter 2025**

**POSITION: Lab TA** *(two-term TAship: 65- or 130-hours total)*

“TWO-TERM” TAs:

These TAships span both the fall and winter terms. The distribution of hours may be uneven across terms. Only apply to this position if you can commit to being available for both terms and for all the indicated dates.

**Please specify which module you’re applying for**:

* BIOL212 Lab TA - Cell Module
* BIOL212 Lab TA - Organism Module
* BIOL212 Lab TA - Population Module
* BIOL212 Lab TA - Ecosystem Module

COURSE SUMMARY:

BIOL212 is a lab course supported by a blended/lecture component. Students will learn standard lab and field skills, and gain experience working through the scientific method.

*The course is divided into 4 main modules, plus additional Skills mini-modules:*

**Module 1. Cell:** CRIPSR-mediated phage immunity (bacteria) + Lab Skills

* Weeks 1-3 (Sep, Jan), followed by time required for marking
* TAs will need to be in communication with the lab instructor prior to the beginning of term to set up schedules, etc.
* lab instructor: Howard Teresinski ([hjt@queensu.ca](mailto:hjt@queensu.ca) for more information)

**Module 2. Organism:** Herbivory (hornworms, various plants) + Dissection Skills & Lab Practical

* Weeks 4-6 (Sep-Oct, Jan-Feb), followed by time required for marking
* Week 12 (end of Nov, Apr)
* one or more LTAs will also be required to assist with lab preparation in the weeks prior to the beginning of the module (to be discussed)
* lab instructor: Barb Vanderbeld ([vanderb@queensu.ca](mailto:vanderb@queensu.ca) for more information)

**Module 3. Population:** Adaptation to stress (Brassica) + Lab Practical

* Weeks 7-9 (Feb-Mar, Oct-Nov), followed by time required for marking
* Week 12 (end of Nov, Apr)
* lab instructor: Baharul Choudhury ([baharul.choudhury@queensu.ca](mailto:baharul.choudhury@queensu.ca) for more info)

**Module 4. Ecosystem:** Response to salt (lake mesocosms)

* Weeks 10-11 (Nov, Mar), followed by time required for marking
* one or more LTAs will also be required to assist with Literature Skills (Week 6) and/or the Field Trip (Jan/Sep) and/or the Lab Practical (Week 12) (to be discussed)
* lab instructor: Anna Rooke ([anna.rooke@queensu.ca](mailto:anna.rooke@queensu.ca) for more information)

SPECIFIC REQUIREMENTS and DUTIES of the Lab TA:

- on-the-job paid training will be provided, however the Lab TAs for each module should already be proficient in the following skills:

* **Module 1**: preparing solutions, pipetting, PCR, gel electrophoresis, bacterial culture work, aseptic technique
* **Module 2**: preparing solutions, pipetting, plant care; must also be willing to work with hornworms and supervise animal dissections (no prior experience with hornworms or dissections required)
* **Module 3**: plant care, working with R (code will be provided)
* **Module 4**: basic freshwater zooplankton identification (e.g. copepod vs. daphnia), working with R (code will be provided), ability/willingness to collect zooplankton from Elbow Lake in potentially cold or wet weather, valid driver’s license considered an asset
* facilitate one or two 3-hour lab sessions per day, up to four days/week while the module is running (dates provided above), and TAs should therefore plan to minimize other commitments during this period
* TAs will also be responsible for marking lab activities and reports, responding to student inquiries, and maintaining accurate grade and attendance sheets
* TAs may be required to assist the lab instructors outside of lab time (including, possibly, on some weekends) with the following: collecting and/or caring for specimens, preparing samples/solutions, lab set-up/clean-up
* for more information about the Lab TAships for a specific module, please email the lab instructor (addresses provided above)

PROFESSIONAL CONDUCT

All Biology TAs are required to adhere to the University's Code of Conduct, as described in Section 12 of the Queen's Graduate Calendar, and Section 4 of the Guide to Graduate Studies in Biology. As teachers of undergraduates, TAs are expected to recognize the seriousness of all forms of Academic Dishonesty, Harassment and Discrimination and to understand the rules governing such cases at Queen's.