

**BIOM* 6110: Research Methods in Biomedical Sciences (Advanced Microscopy)
“Theory and Practical Training in Laboratory Techniques for Biomedical Sciences”**

Credit: 0.5 (Offered over two semesters: Fall 2018 & Winter 2019)

Lectures held from **10:00 to 11:30 AM** in **OVC Room 3648** (Mon/Wed)

Course Coordinator:

Roger Moorehead
Department of Biomedical Sciences, Room 3626
Ext 54950; E-mail: rmoorehe@uoguelph.ca

Participating Faculty and Staff, Department of Biomedical Sciences:

Monica Antenos, ext. 58260: mantenos@uoguelph.ca
Laura Favetta, ext. 56212: lfavetta@uoguelph.ca
Yu Gu, ext. 54974: ygu@uoguelph.ca
Ron Johnson, ext. 54041: rjohns03@uoguelph.ca
Claude Lachance (Bio-Rad): claudelachance@bio-rad.com
Allison MacKay, ext 58261: amackay@uoguelph.ca
Roger Moorehead, ext. 54950: moorehe@uoguelph.ca
Jodi Morrison, ext. 54685: jmorriss7@uoguelph.ca
Jim Petrik, ext. 54921: jpetrik@uoguelph.ca
Ed Reyes, ext. 52649: ereyes@ovc.uoguelph.ca
Jeff Thomason, ext. 54934 : jthamaso@ovc.uoguelph.ca
Matthew Vickaryous, ext. 53871: mwickary@uoguelph.ca

Objective:

To provide a theoretical and practical introduction to basic and advanced laboratory techniques for graduate students in Biomedical Sciences.

Course Format:

All Students must take Module 1 and this module counts towards one of your 4 modules. Module 1 introduces students to practices required for safe conduct in a laboratory. Students must select 3 modules other modules from the list below. Please note that some modules have student minimum and maximum numbers. Modules will be assigned on a first come, first serve basis. If you have signed up for a module that does not get the required number of students, you will be notified and asked to select an alternative elective module. Please email your choices to Roger Moorehead at rmoorehe@uoguelph.ca

Most modules consist of one or more lectures and one or more hands-on components. Lectures will occur during the designated lecture slots (Monday or Wednesday 10-11:30) however the lab components of the modules may take place outside the designated class times. **Students must attend all lectures and labs in order to obtain credit for that module.**

Required Reading:

Material will be recommended by individual instructors.

Student Evaluations:

The type of evaluation will be determined by individual instructors but may include lecture/lab participation, written reports of laboratory work, papers on selected topics, on-line quizzes, written examinations or oral presentations. Each module will be self-contained, and assignments will generally be due within two to three weeks of the associated class time.

Each of the four modules will constitute $\frac{1}{4}$ of the final grade.

Academic Misconduct:

Plagiarism, sharing of work or other such forms of misconduct will not be tolerated. The standard University of Guelph policies on academic misconduct are addressed in the UofG 2013-2014 Graduate calendar – for policy details and a description of possible penalties, please refer to the section entitled “Academic Misconduct” via this link:

<http://www.uoguelph.ca/registrar/calendars/graduate/current/pdffiles/index.shtml>

Course evaluations:

Students will be asked to complete a questionnaire on instructors' teaching competence during the last two weeks of classes (Fall and Winter semester, if possible). This is part of the information required by the University to evaluate faculty performance for purposes of tenure, promotion and selective increases. Administered by a third party rather than the instructors, and generally available on-line, these evaluations will be delivered to the respective instructors ONLY after the final grades have been submitted to the Registrar's Office. **Note:** Only the numerical ratings from the form will be made available to the Chair for administrative purposes-the Chair will NOT see any comments that are written on the evaluation form unless signed by the student.

BIOM*6110 Modules

1. Research Safety*

Instructors: Monica Antenos

Lecture: Wed Sept 12; 10-11:20am, OVC Room 3648

Multiple Choice Quiz: Wed Sept 19; 10-11:20am, OVC Room 3648

Material: Students are required to complete an online safety module. The multiple choice quiz will be based on interpreting MSDS sheets as well as the information on Laboratory Emergency Response Procedures and Laboratory Spill Response at <https://www.uoguelph.ca/hr/hr-services-environmental-health-safety-programs/laboratory-safety>

* this component is mandatory for all students and counts as one of your 4 modules

2. Experimental Models*

Instructors: Jim Petrik/Roger Moorehead/Ed Reyes

Lectures: Mon Oct 1; 10-11:20am, OVC Room 3648

Wed Oct 3; 10-11:20am, OVC Room 3648

Labs: First Session is Tuesday Oct 9 at 1:30pm in lab 3638

* this module will only be offered if at least 4 students register and the maximum number of students this module can accommodate is 8.

3. Real Time PCR

Instructors: Laura Favetta

Lectures: Mon Oct 15; 10-11:20am, OVC Room 3648

Wed Oct 17; 10-11:20am, OVC Room 3648

Labs: multiple sessions offered between Oct 18 – Nov 1

4. Protein Assays*

Instructors: Claude Lachance/Monica Antenos

Lectures: Mon Nov 12; 10-11:20am, OVC Room 3648

Lab: Wed Nov 14: 9:30-12:30 - PLEASE NOTE THE LAB TIME

* this module will only be offered if at least 4 students register and the maximum number of students this module can accommodate is 20. You must attend both the lecture and the lab and be available for the entire lab component

5. HPLC*

Instructors: Ron Johnson/Yu Gu

Lectures: Mon Nov 26; 10-11:20am, OVC Room 3648

Wed Nov 28; 10-11:20am, OVC Room 3648

Labs: TBA (week of Dec 3)

* this module will only be offered if at least 5 students register and the maximum of number of students this module can accommodate is 12.

6. Principles of Electronic Data Acquisition and Analysis*

Instructor: Jeff Thomason

Lecture: Mon Jan 14; 10-11: 20am, OVC Room 3648
Wed Jan 16; 10-11:20am, OVC Room 3648

Labs: TBA (week of Jan 21)

7. Histology and Immunohistochemistry*

Instructors: Matthew Vicakaryous/Jodi Morrison

Lectures: Mon Feb 4; 10-11:20am, OVC Room 3648
Wed Feb 20; 10-11:20am, OVC Room 3648

Labs: Feb 5-19; exact dates and times TBA

* this module will only be offered if at least 2 students register and a maximum number of students this module can accommodate is 16.