BIOL 403
Frontiers in Cell and Molecular Physiology

Winter Term (2013-14)

CALENDAR DESCRIPTION

A hands-on survey of selected experimental approaches to studying cell biology and molecular physiology.

COREQUISITE (BIOL 330/3.0 or BCHM 218/3.0 or *MBIO 218/3.0*) and (BIOL 334/3.0 or BIOL 339/3.0 or BIOL 341/3.0 or BIOL 301/3.0 or BIOL 338/3.0). EQUIVALENCY *BIOL 325/3.0.*

SCHEDULE

Lab: Wednesday 8:30-11:30. Tut: Wednesday 17:30-18:30. BIOSC 3326

Instructor	**Dr. L. Seroude**
Instructor Contact	seroudel@queensu.ca Phone: 613-533-6769
Office Hours	8:30am-5:30pm
TA:	Husain Nizami
TA Contact Information	8mhn@queensu.ca
Office Hours	N/A

Learning Objectives

A hands-on survey of selected experimental approaches to studying cell biology and molecular physiology. Topics may vary from year to year.

Learning Hours

Teaching method		*Average hours per week*	*Number of weeks*	*Total hours*
In-class hours	Lecture			
	Seminar			
	Laboratory	4	12	48
	Tutorial			
	Practicum			
	Group learning			
	Individual instruction			
Other	Online activity			
	Off-campus activity	6	12	72
	Private study			
Total hours on task				120

Course Outline

Week 1: Introduction, Measurements, Conversions and Solutions
Week 2: Conversions and Solutions
Week 3: Spectrophotometry Part I (spectrum)
Week 4: Spectrophotometry Part II (molar absorptivity)
Week 5: Protein Quantification Part I (assay set-up)
Week 6: Protein Quantification Part II (validation)
Reading Week
Week 7: Enzyme Part I (catalytic activity)
Week 8: Enzyme Part II (KM and Vmax)
Week 9: Cell/organism response to environmental factors (set-up)
Week 10: Cell/organism response to environmental factors (heat-shock response)
Week 11: Final Exam (10 students)
Week 12: Final Exam (10 students)

Textbooks/Readings

http://seroudelab.biology.queensu.ca/Bio403/Biol403/Welcome.html

Grading Scheme

Component	Weight (%)	Date
Quiz/Lab notes	30	Every week (except Week 1, 11, 12)
Problem solving	10	Week 1
Participation	10	Every week
Final	50	Week 11 or 12

Grading Method

In this course, some components will be graded using numerical percentage marks.
Your course average will then be converted to a final letter grade according to Queen's Official Grade Conversion Scale:

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59

D	53-56
D-	50-52
F	49 and below

Academic Integrity and Queen's Code of Conduct

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and conduct conform to the principles of academic integrity. Information is available in the Arts and Science Calendar (see Academic Regulation 1 - http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations, on the Arts and Science website (see http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity), and at Biology's website (http://www.queensu.ca/biology/undergrad/integrity.html) and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulations on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Accommodation Policy, Exam Conflicts, and Other Conflicts

Students who feel they need accommodations for disabilities or extenuating circumstances, or have a conflict between exams or other commitments should consult the Biology Department's website for details about how to proceed (http://www.queensu.ca/biology/undergrad/integrity.html). In general, the earlier a course coordinator is apprised of an extenuating circumstance, the more likely an accommodation can be made. Students are encouraged to be proactive in anticipating difficulties, when it is possible to do so.

Students may apply to write a make-up or deferred exam if they have an exam conflict as defined in the Academic Regulations of the Faculty (See Arts and Science Calendar Regulation 8 - http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations). In this case, the student should report to the Exams Office first to verify that there is a genuine exam conflict. Biology professors will not consider your situation to be a conflict unless it meets the criteria set out by the Faculty of Arts and Sciences.

Students may request a make-up or deferred exam if they have an exam conflict with off-campus travel associated with a field course (e.g BIOL-307/3.0 or 407/3.0) that is held during the fall or winter terms.

Copyright

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Accommodation of Disabilities

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Disability Services Office (DSO) and register as early as possible. For more information, including important deadlines, please visit the DSO website at: http://www.queensu.ca/hcds/ds/