

# BIOL 433

## Theoretical Foundations of Biology

Winter Term (2013-14)

### CALENDAR DESCRIPTION

An examination of the foundations of evolution, classification and other selected topics from historical, philosophical and scientific perspectives.

PREREQUISITE BIOL 302/3.0 or BIOL 303/3.0.

### SCHEDULE

Lectures: Tuesday 13:00-14:30, Thursday 11:30-13:00. BIOSC 1120

Seminar scheduling details available on SOLUS.

<b>Instructor</b>	R. Montgomerie
<b>Instructor Contact</b>	<a href="mailto:mont@queensu.ca">mont@queensu.ca</a> Phone: 613-533-6127
<b>Office Hours</b>	Thurs 09:00-11:00
<b>TA:</b>	N/A
<b>TA Contact Information</b>	N/A
<b>Office Hours</b>	N/A

### Learning Objectives

The goals of Biology 433 are to provide students with an appreciation of the history of biology, and of philosophical issues both within biology and where biology has something useful to offer.

### Learning Hours

<i>Teaching method</i>		<i>Average hours per week</i>	<i>Number of weeks</i>	<i>Total hours</i>
In-class hours	Lecture	3	12	36
	Seminar			
	Laboratory			
	Tutorial	2	12	24
	Practicum			
	Group learning			
	Individual instruction			
Other	Online activity			
	Off-campus activity			
	Private study	5	12	60
Total hours on task				120

## Course Outline

LECTURES: there is no particular schedule for lectures as we will explore each subject until we are satisfied that we have exhausted the topic. The topics to be discussed will be presented in more or less the following order:

- adaptation and the adaptationist program
- scientific methods, paradigms and revolutions
- scientific misconduct
- science- and evidence-based medicine
- religion and creationism
- free will and determinism
- moral systems
- legal systems

Because there are no exams in this course, and the structure is focused on discussion, the lectures are mandatory.

TUTORIALS: we will hold tutorials before Reading week to discuss assigned papers relevant to the lecture material. After Reading Week each student will present a 15-minute seminar on a topic to be determined by the end of week 3.

## Textbooks/Readings

Readings are all posted on the course blog at: <http://bio433.blogspot.ca>

## Grading Scheme

Component	Weight (%)	Date
Lecture participation	10	Twice weekly
Annotated chapter	20	14 Feb
Major essay	25	15 April
Discussion papers	20	
Tutorial participation	10	weekly
Critiques of papers		
Seminar	15	After Reading Week

## Grading Method

### *Arts & Science Letter Grade Input Scheme*

Assignment mark	Numerical value for calculation of final mark
A+	93
A	87
A-	82

B+	78
B	75
B-	72
C+	68
C	65
C-	62
D+	58
D	55
D-	52
F48 (F+)	48
F24 (F)	24
FO (0)	0

### **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.

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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/>*