

University of Guelph
College of Biological Science
Integrative Biology
COURSE OUTLINE

Advances in Evolutionary Biology, IBIO*6020
Winter 2015

Course description

This modular course reviews primary scientific literature, books and/or other publications in the field of evolutionary biology, providing knowledge of progress in this area of biology. Topics may include epigenetics, phylogenetics, developmental basis of evolutionary change, and molecular evolution. The course includes lectures and seminars in which the students participate.

The W15 offering will use a recently published Comment entitled “Does evolutionary theory need a rethink?” (Laland et al. 2014. Nature 515:161) as a starting point for debate and discussion. Students will either argue the point “Yes, urgently” or “No, all is well” in response to the question by focusing on topics that some biologists believe have been neglected in evolutionary theory.

Teaching team

Instructor: Moira Ferguson (mmfergus@uoguelph.ca)

Course schedule

TBD

Learning goals and rationale

At the end of this course, the successful graduate student will be able to work collaboratively and efficiently with peers and the instructor to:

1. Synthesize relevant literature about a current controversy in the field of evolutionary biology and to present a reasoned point of view supported by evidence.
2. Discuss and defend a view point with others who may have other opinions in a small public group setting.
3. Collaborate with another holding a different opinion to produce a written synthesis of views that clearly identifies the controversy, summarizes the main ideas in conflict and provides an explicit framework for reconciliation.

4. Reflect on the importance of controversy in research to stimulate understanding both by leading group discussions and through self-reflection.

Course Resources

Students will focus primarily on the primary literature readily available through library resources.

Course Content

	Potential topics	Readings
1.	Introduction – Does evolutionary theory need a rethink?	Laland et al. 2014. Nature 514:161-164
2.	Topic 1 - Developmental bias	Primary literature
3.	Topic 2 - Phenotypic plasticity	Primary literature
4.	Topic 3 - Niche construction	Primary literature
5.	Topic 4 - Extra genetic inheritance	Primary literature

Methods of Assessment

Form of Assessment	Weight of Assessment	Due Date of Assessment	Course Content /Activity	Learning Outcome Addressed
Presenting a point of view for a current controversy	15 x 2 = 30%	Twice in semester (Point and Counterpoint)	Lecture, individual	1,2
Leading a group discussion	10 x 2 = 20%	Twice in semester (Point and Counterpoint)	Pair-based, adjusted by peer evaluation	1,2, 4
Participating in group Discussions	10%	Weekly	Individual	4

Form of Assessment	Weight of Assessment	Due Date of Assessment	Course Content /Activity	Learning Outcome Addressed
Writing a synthesis of your position and ability to reconcile it with that of an opponent	20 x 2 = 40%	Twice in semester – due in Week 12	Pair-based, adjusted by peer evaluation	3

Important Dates

Date	Event
2015-01-05	First day of semester
2015-01-12	Introduction, assignment of topics and roles (point or counterpoint)
2015-01-19	Preparation, no class
2015-01-26	Presentation and discussion to topic #1
2015-02-16	Winter break begins
2015-12-20	Winter break ends
2015-03-06	40 th class day – Last day to drop courses
2015-04-02	Classes conclude – synthesis papers due

Course and University Policies

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement (in-class presentations) as scheduled because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact, and be prepared to provide supporting documentation. The deadline for the missed requirement will be rescheduled at another time within the semester.

Grading

Late submissions of synthesis papers will not be accepted.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities (soon to be re-named Student Accessibility Services) as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: [Centre for Students with Disabilities](#)

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar: [Undergraduate Calendar - Academic Misconduct](#)

E-mail Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

Drop Date

The last date to drop one-semester courses, without academic penalty, is the 40th class day. To confirm the actual date please see the schedule of dates in the Undergraduate Calendar. For

regulations and procedures for Dropping Courses, see the Undergraduate Calendar:
[Undergraduate Calendar - Dropping Courses](#)

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Campus Resources

The Academic Calendar is the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs: [Academic Calendars](#)

If you are concerned about any aspect of your academic program:

- make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

If you are struggling to succeed academically:

- There are numerous academic resources offered by the Learning Commons, including Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple-choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. [The Learning Commons](#)

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. [Counselling Services](#)
- Student Health Services is located on campus and is available to provide medical attention. [Student Health Services](#)
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to

stress management and high-performance situations. [Stress Management and High Performance Clinic](#)

If you have a documented disability or think you may have a disability:

- The Centre for Students with Disabilities (CSD) can provide services and support for students with a documented learning or physical disability. They can also provide information about how to be tested for a learning disability. For more information, including how to register with the centre please see: [Centre for Students with Disabilities](#)