

IBIO*6020 – Advances in Evolutionary Biology

Winter 2018

Professor:

Dr. T. Ryan Gregory
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Description:

This course provides an opportunity to explore key concepts and questions in evolutionary biology. The topic this semester will be: “The scope and limits of natural selection”. Natural selection has been a core component of evolutionary theory since Darwin published *On the Origin of Species* in 1859, but its role in the evolution of biological diversity remains the subject of debate. During the semester, we will explore several questions about natural selection, such as: How important is natural selection in shaping organismal phenotypes, and how is the power of selection limited by other factors like non-adaptive mechanisms and constraints? How often does natural selection play a lead role in the formation of new species? What are the impacts of different forms of selection (ecological selection, sexual selection, directional/purifying/balancing selection)? Aside from operating among organisms within populations, where else does natural selection occur (e.g., within the genome, at higher levels of organization such as groups/species/lineages, or even in abiotic systems)?

Readings:

A textbook will not be used. Instead, there will be assigned weekly readings provided over the course of the semester, including:

- Peer-reviewed publications from the primary literature in evolutionary biology and the philosophy of science.
- Book chapters, media stories, and other non-primary sources.
- Papers selected by students on relevant topics.

Grades:

- Critique of published paper(s) (4-5 pages): 15%
- Independent term paper (10-12 pages): 35%
- Oral presentation / guided discussion: 25%
- Participation and intellectual contributions: 25%

Course and University Policies

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact, and be prepared to provide supporting documentation. See the graduate calendar for information on regulations and procedures for Academic Consideration:

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

Assignments that are submitted after the deadlines indicated on the assignment **will not be accepted** and the distribution of course marks **will not be altered** for any student unless Academic Consideration for illness or other compassionate grounds has been approved by the course instructor.

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 as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: <http://www.csd.uoguelph.ca/csd/>

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 Graduate Calendar:

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

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 Graduate Calendar:

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

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.

Grading

Grading will follow the criteria outlined by the Graduate Calendar and as follows.

Percentage Grade	Letter Grade	Description
90-100	A+	Outstanding. The student demonstrated a mastery of the course material at a level of performance exceeding that of most scholarship students and warranting consideration for a graduation award.
80-89	A- to A	Very Good to Excellent. The student demonstrated a very good understanding of the material at a level of performance warranting scholarship consideration.
70-79	B	Acceptable to Good. The student demonstrated an adequate to good understanding of the course material at a level of performance sufficient to complete the program of study.
65-69	C	Minimally Acceptable. The student demonstrated an understanding of the material sufficient to pass the course but at a level of performance lower than expected from continuing graduate students.
0-64	F	An inadequate performance.

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-as-gradeint.shtml>

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:

<http://www.uoguelph.ca/registrar/calendars/index.cfm?index>

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

- make an appointment with a program counsellor in your degree program.

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.

<http://www.learningcommons.uoguelph.ca/>

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.
- Student Health Services is located on campus and is available to provide medical attention.
- 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.

<https://www.uoguelph.ca/counselling/>
<https://www.uoguelph.ca/studenthealthservices/clinic>
<http://www.uoguelph.ca/~ksomers/>

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: <https://www.uoguelph.ca/csd/>