Biology 321
Evolution

Dr. Grant E. Brown
Office: SP-457-02
Email: grant.brown@concordia.ca

Course website: Biol 321/2 (access Moodle via 'My Concordia' portal)

Office Hours: Wednesdays 8 – 10 am or by appointment.

Course overview:
Evolutionary biology is the central concept among all fields of biology. As such, a general understanding of the principles and mechanisms of natural selection, sexual selection, neutral and multi-level selection, speciation and extinction, adaptive radiation and coevolution is critical for our understanding of all biological systems. Through lectures and directed readings, these topics will be discussed. Lectures will focus on general topics, while the tutorials will deal with specific topics in greater detail.

The course will consist **in person lectures and tutorial** components. Lectures are designed to give students an introduction to the broad concepts and models, which comprise modern Evolutionary Biology. Tutorials will give students the opportunity to examine, through directed discussions and assignments, current research topics and controversies in greater detail. It is imperative that students come prepared to both lectures and tutorials in order to actively participate in discussions. Please ensure that you have done all readings before coming to class!

Please note that if Public Health dictates, lectures will be given via zoom and attendance is expected (recorded lectures will not be posted).

There will be **bi-weekly quizzes** (Moodle Quiz) to assess comprehension of these the posted readings. Quizzes will be made available until the start of the Thursday lecture.

Textbooks:
The required textbook for this class is **Evolution 2nd edition (CT Bergstrom & LA Dugatkin).** Lectures will follow closely from the book, so it is critical to have the readings done before class. In addition to the textbook, there will be additional readings placed on a class website (for both lecture and tutorials). **Any assigned readings may appear as exam questions**.

Grades:
Students are expected to submit all written assignments on time. **I will assess a 10% per day late penalty for any assignment submitted after the deadline. Failure to submit any written assignment will result in the automatic loss of a full letter grade.** If you have a

conflict with an assignment or exam date, please see me at least one week in advance to discuss possible accommodations.

Lecture:

Midterm	25%	24 Feb 2022
Weekly questions/quizzes	10%	bi-weekly (starting 18 Jan)
Final exam	45%	TBA

Tutorial:

Paper summaries/assignments	20%	each tutorial class

NOTE:
Tutorials will be every two weeks, starting the 18th of January.
Dates for tutorials are listed on the course Moodle page.

Lecture topics: This is a preliminary list of topics and readings, up-to-date readings and topics will be posted on the website for this course. Check the site often! I will also post readings for tutorials and lecture notes on the site.

Week	Topic	Readings
WK 1:	Darwin's Legacy and Classic Population Genetics	chpt 1, 2, 6
WK 2:	Natural selection and H-W Equilibria	chpt 3, 7, 9
WK 3:	Quantitative Genetics and Phenotypic Plasticity	chpt 9, readings
WK 4:	Evolution-Ecology-Development interactions	chpt 8, 13
WK 5:	Microevolution, Adaptive Landscapes, Sexual Selection	chpt 9, 16
WK 6:	Cooperation, Evolution of Social Systems	chpt 17
WK 7:	Mutation and Genome Evolution MIDTERM EXAM	chpt 6, 7
WK 8:	Quantifying Molecular Variation, Neutral Theory	chpt 10
WK 9:	Speciation and Coevolution	chpt 14, 18
WK 10:	Alternative Life Histories and Frequency Dependence	readings
WK 11:	Phylogenetic analysis	chpt 4, 5
WK 12:	Extinction and Extirpation	chpt 15

WK 13: Evolution and Conservation Biology readings.

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This could be material copied word for word from books, journals, internet sites, professor's course notes, etc. It could be material that is paraphrased but closely resembles the original source. It could be the work of a fellow student, for example, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased through one of the many available sources. Plagiarism does not refer to words alone - it can also refer to copying images, graphs, tables, and ideas. "Presentation" is not limited to written work. It also includes oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into French or English and do not cite the source, this is also plagiarism.

In Simple Words:
DO NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM ANYWHERE WITHOUT SAYING FROM WHERE YOU OBTAINED IT!

(Source: The Academic Integrity Website: http://provost.concordia.ca/academicintegrity/plagiarism/)

- **Concordia Counselling and Development** offers career services, psychological services, student learning services, etc. http://cdev.concordia.ca/
- **The Concordia Library Citation and Style Guides**: http://library.concordia.ca/help/howto/citations.html
- **Advocacy and Support Services**
  http://supportservices.concordia.ca/
- **Student Transition Centre**
  http://stc.concordia.ca/
- **New Student Program**
  http://newstudent.concordia.ca/
- **Access Centre for Students with Disabilities**
  http://supportservices.concordia.ca/disabilities/
- **Student Success Centre**
  http://studentsuccess.concordia.ca/
- **The Academic Integrity Website**
  http://provost.concordia.ca/academicintegrity/
- **Financial Aid & Awards**
  http://web2.concordia.ca/financialaid/
- **Health Services**
  http://www-health.concordia.ca/