

BIOL 350: ECOLOGY OF INDIVIDUALS

Fall 2016

Concordia University

Tuesday & Thursday 16:15-17:30

Loyola CC 310

Professor: Rebecca Tittler

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Office Hours: Thursday 15:00-16:00 or by appointment

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Prerequisites: BIOL 225, 226

Credits: 3

Important dates for the fall 2016 semester:

- *September 19, 2016*: Deadline for withdrawal with tuition refund from fall-term courses
 - *September 27, 2016*: Paper summary due (5%)
 - *October 18, 20, or 25, 2016*: Midterm exam (35%) (Date chosen based on majority vote)
 - *October 27, 2016*: Paper choice due for final paper critique (1%)
 - *November 6, 2016*: Last day for academic withdrawal from fall-term courses (no refund)
 - *November 17, 2016*: Paper critique due (24%)
 - *December 7-21, 2016*: Final exam period (35%). **No travel arrangements should be made until after the final exam schedule has been published.**
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Helpful Websites:

- *Access Centre for Students with Disabilities* <http://supportservices.concordia.ca/disabilities/>
 - *The Academic Integrity Website* <http://provost.concordia.ca/academicintegrity/>
 - *Concordia Counseling and Development* <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/>
 - *Student Success Centre* <http://studentsuccess.concordia.ca/>
 - *Financial Aid & Awards* <http://web2.concordia.ca/financialaid/>
 - *Health Services* <http://www-health.concordia.ca>
 - *Aboriginal Students Research Center* <http://supportservices.concordia.ca/nativecentre/>
 - *2110 Center for Gender Advocacy* <http://www.centre2110.org/>
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Disclaimer: In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change

1. Course description:

This course is designed to introduce students to the diversity of adaptations possessed by individuals that enables them to interact successfully with the abiotic and biotic environment. Major topics include responses to temperature, water, gas exchange, light, and other species. In addition, sensory ecology and escape in time and space are covered. Physiological adaptations are emphasized (Concordia University Undergraduate Calendar 2016-2017).

2. Course objectives:

Upon completion of this course, students should have an understanding of the basic material pertaining to the above topics and be able to extrapolate this information to formulate hypotheses and propose methods of testing these hypotheses. In addition, students should be able to critique peer-reviewed research papers in the area of individual ecology.

3. Readings:

Textbook (on reserve in the library):

Reece JB, Urry LA, Cain ML, Wasserman SA, Minorsky PV, Jackson RB (2011)
Campbell Biology, 9th edition. Pearson Benjamin Cummings, San Francisco, CA. *Nine copies on reserve at Vanier Library (BIOL 201).*

4. Course outline¹:

Dates	Topic	Readings (from Reese <i>et al.</i> 2011)
<i>Introduction</i>		
Sept. 6	Ecology and adaptation	Ch. 22, p. 860-862, 1128-1129, 1179-1181
Sept. 8	Scale	p. 99, 870
<i>Part I: Physiological ecology</i>		
Sept. 13	Temperature	
Sept. 15	Temperature	p. 127-128, 155-156, 844-845, 868-872
Sept. 20	Temperature	
Sept. 22	Temperature	

¹ Schedule and readings subject to change. Topics may be added if there is time.

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Dates	Topic	Readings (from Reese <i>et al.</i> 2011)
Sept. 27	Water balance	
Sept. 29	Water balance	p. 132-134, 767-778, 953-972
Oct. 4	Water balance	
Oct. 6	Gas exchange	p. 174-179, 199-202, 897-899, 915-926
Oct. 11	Gas exchange	
Oct 13	Light	p. 189-193
<i>Part II: Interspecific interactions</i>		
Oct. 18	Competition ²	p. 1195-1196
Oct. 20	<i>Midterm exam</i> ²	
Oct. 25	Predation & Parasitism ²	
Oct. 27	Predation & Parasitism	p. 1197-1198
Nov. 1	Predation & Parasitism	
Nov. 3	Mutualism	p. 1199-1200
Nov. 8	Response to Heterogeneity	
<i>Part III: Information Acquisition and Communication</i>		
Nov. 10	Types of Signals	p. 1085-1103, 1120-1122
Nov. 15	Environmental Signalling	
Nov. 17	Communication & Learning	p. 1123-1128
<i>Part IV: Phenology and Escape</i>		

² The midterm exam will cover Part I of the course. It is scheduled here for Oct 20th but the students will vote on their preference for Oct. 18th, 20th, or 25th, the majority vote will win. The schedule will be adjusted accordingly.

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Dates	Topic	Readings (from Reese <i>et al.</i> 2011)
Nov. 22	Why Escape?	
Nov. 24	Circadian Rhythms	p. 838-841, 1070-1071
Nov. 29	Dormancy	p. 778, 861-862, 871-872, 993
Dec. 1	Dispersal & Migration	p. 1119-1120

5. EVALUATION

The grade is made up of a midterm exam, a short article summary, a paper critique, and a final exam, which will take place during the official exam period.

Marking Scheme:

Midterm exam³: 35% (Oct 18th, 20th, or 25th, depending on majority student preference; covers the first part of the course)

Article summary: 5% (due Sept. 22nd)

Paper critique: 25% (1% for article abstract and three references, due Oct. 27th; 24% for paper, due November 17th)

Final exam: 35% (During the final exam period; covers Parts II - IV of the course)

6. GRADING SCHEME:

A+ 90-100	A 85-89.9	A- 80-84.9
B+ 77-79.9	B 73-76.9	B- 70-72.9
C+ 67-69.9	C 63-66.9	C- 60-62.9
D+ 57-59.9	D 53-56.9	D- 50-52.9

7. STUDENT RESPONSIBILITIES:

Students are expected complete all assignments on time. However, recognizing that sometimes the semester gets busy and it is difficult to meet deadlines, all students are entitled to a free 48 hours of extension to be used at any time on any assignment (or split between more than one assignment) throughout the semester, no formal excuse necessary. Once these 48 hours have been used up, late assignments will be penalized 10% per day unless a valid medical excuse is provided by a doctor in writing.

³ **If you miss the midterm for a valid reason (written medical excuse), please contact me ASAP to arrange a makeup.**

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8. THE ACADEMIC CODE OF CONDUCT and PLAGIARISM:

Academic integrity means that every student must be honest and accurate in their work. The Academic Code of Conduct includes rules and regulations students must follow. Unacceptable practices include:

- Copying from ANYWHERE without saying from where it came.
- Omitting quotation marks for direct quotations.
- Letting another student copy your work and then submit it as his/her own.
- Handing in the same assignment in more than one class without permission.
- Having unauthorized material in an exam, such as cheat sheets, or crib notes. **YOU DON'T HAVE TO BE CAUGHT USING THEM - JUST HAVING THEM WILL GET YOU INTO TROUBLE!**
- Copying from someone else's exam.
- Communicating with another student during an exam by talking or using signals.
- Adding or removing pages from an examination booklet or taking the booklet out of an exam room.
- Getting hold of or stealing an exam or assignment answers or questions.
- Writing a test, assignment, or exam for someone else or having someone write it for you.
- Handing in false documents such as medical notes, transcripts, or records.
- Falsifying data or research results.

PLAGIARISM: The most common offense under the Academic Code of Conduct is plagiarism, which the Code defines as "**the presentation of the work of another person as one's own or without proper acknowledgement.**"(Concordia University Undergraduate Calendar 2016-2017, to be found at <http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html>)

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, such as an answer on a quiz, data for a lab report, or a paper or assignment completed by another student. It could 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. Plagiarism is not limited to written work. It also applies to 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. If you cite your own work without the correct citation, this too is plagiarism. In simple words: **DO NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM ANYWHERE WITHOUT SAYING FROM WHERE YOU OBTAINED IT!**

-Jeannessen, A., 2012

It is your responsibility to inform yourself of the rules, regulations and expectations for academic integrity, available at <http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html>. For tips on how to avoid plagiarism, refer to the following webpage: <https://www.concordia.ca/students/academic-integrity/plagiarism.html>

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