



DEPARTMENT OF SCIENCE

COURSE OUTLINE – FALL 2019

BI1080 - An Introduction to Biological Diversity – 3 (3-1-3) 105 Hours for 15 Weeks

INSTRUCTOR: Dr. Jessie Zgurski **PHONE:** 780-539-2863 (Office)
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OFFICE HOURS: Mon/Tues 2–5 PM, Wed 2:30–5 PM, Thurs 10 AM–12 PM.

CALENDAR DESCRIPTION: This course examines the major lineages of life on Earth. It provides an overview of evolutionary principles and classification, the history of life, and the key adaptations of prokaryotes, protists, fungi, plants, and animals. Laboratories survey the diversity of biological form and function, and introduce students to data collection and scientific writing.

PREREQUISITE(S)/COREQUISITE: Biology 30 (Prerequisite)

REQUIRED TEXT/RESOURCE MATERIALS:

- All required resources are available at the book store.
- 1) Reece, J. B., Urry, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P. V., Jackson, R. B., Rawle, F. E., Durnford, D. G., Moyes, C. D., Scott, K., and Walde, S. J. 2017. *Campbell Biology, Second Canadian Edition*. Pearson Canada Inc., Don Mills, ON.
- 2) Gillies, S. L., and Hewitt, S. (eds). 2011. *Biology on the Cutting Edge*. Pearson Canada, Inc., Toronto, ON.
- 3) *Biology 1080 Laboratory Manual 2019*, University of Alberta/Grande Prairie Regional College

DELIVERY MODE(S): Lecture, Laboratory, Seminar.

COURSE OBJECTIVES: To provide the student with a thorough understanding of current evolutionary theory and to demonstrate how the evolutionary process has produced a wide variety of organisms, both extinct and extant.

LEARNING OUTCOMES:

By the end of the course, students should:

- Understand how to use the scientific method to test biological hypotheses.
- Be able to describe the process of natural selection, and be able to provide examples of the evidence for evolution via natural selection.
- Be able to use current phylogenetic and taxonomic nomenclature to discuss the evolution of life on Earth.
- Be able to list the characteristics that define the major clades of life, including the eukaryotes, fungi, land plants, vascular plants, seed plants, flowering plants, chordates, tetrapods, and amniotes.

NOTE: Additional detailed learning outcomes will also be provided for each topic included in the course.

TRANSFERABILITY: University of Alberta, University of Calgary, University of Lethbridge, Athabasca University, Augustana Faculty (University of Alberta), Concordia University College, Grant MacEwan University, King's University College.

***Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities.** Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page <http://www.transferalberta.ca> or, if you do not want to navigate through the links, at <http://alis.alberta.ca/ps/tsp/ta/tbi/onlineSearch.html?SearchMode=S&step=2>

**** Grades of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS: Laboratory	40%
Seminar	10%
Midterm (Oct 14)	20%
Final Exam	30%

GRADING CRITERIA:

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE

Lectures: Mon. and Wed., J226, 10:00 – 11:20 AM (Start September 4th 2019)

Laboratories: Thurs. or Fri, J130, 2:30 – 5:20 PM (Start September 12th, 2019)

Seminars: Mon. (J226) or Fri (L229) 11:30 AM – 12:20 PM (Start September 16, 2019)

TOPIC	Readings (pages) (Campbell's Biology)	
	1 st Canadian Edition	2 nd Canadian Edition
Introduction to Biology 1080	-	-
Unifying themes in Biology	1-30; 353-354	Chapter 1
Taxonomy, Phylogeny & Systematics	576-594	Chapter 26
Evolutionary Principles	484-501	Chapter 22
Evolution of Populations	502-521	Chapter 23
Origin of Species	522-541	Chapter 24
History of Life	542-545; 548-573	Chapter 25
Protists	616-643	Chapter 28
Plants – Colonization of Land	644-663	Chapter 29
Plants – Seed & Flowering plants	664-683	Chapter 30
Fungi	684-702	Chapter 31
Animals - Overview	703-715	Chapter 32
Animals – Invertebrates	716-747	Chapter 33
Animals - Chordates	748-775	Chapter 34

STUDENT RESPONSIBILITIES: Please put cell phones on vibrate or airplane mode during the lectures as a courtesy to the instructor and other students. Many studies have found cell phones to be impediments to learning in class, as they are distracting. You may use a laptop to take notes.

Students will be allowed to use standard non-programmable calculators in exams. All other electronic devices are prohibited and should not be brought into exams. Students found to be using a prohibited electronic device during an exam will be required to leave and will receive a mark of zero for that exam.

STATEMENT ON PLAGIARISM AND CHEATING: Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Calendar at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <https://www.gprc.ab.ca/about/administration/policies>

****Note:** all Academic and Administrative policies are available on the same page.

Additional Information: Lecture guides for each topic can be downloaded from Moodle. These are word documents containing key lecture points and images, with some items left blank to be filled in during lecture. Copies of the lecture PowerPoint presentations will also be made available on Moodle. Other learning resources, such as sample exam questions, will be added to the page during the semester. Reminders regarding due dates for assignments and upcoming exams and quizzes will be posted in the announcements section.

Students can gain access to the “Mastering Biology” website using the Student Access Kit provided with the text book. The “Study Area” of this site provides many useful tools including animations, videos and practice quizzes.

The midterm exam will be held on October 14, 2019, during the class period. It will be composed of multiple choice and written answer questions. The final exam will be scheduled during the final exam week and will cover the material presented on the biology of protists, plants, fungi, and animals. Students missing either the midterm exam or the final exam will receive a zero on the exam unless a compelling excuse (and documentation) is presented, such as a doctor’s note. In such a case, a deferred exam must be written at a later date.