DEPARTMENT OF SCIENCE

COURSE OUTLINE – FALL 2020

BI 1080 – An Introduction to Biodiversity - 3 (3-1-3) 105 hours for 15 weeks

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FALL 2020 DELIVERY: Mixed Delivery. This course is delivered remotely with some face-to-face/onsite components at the GPRC Grande Prairie campus.

● For the remote delivery components, students must have a computer with a webcam and reliable internet connection. Technological support is available through helpdesk@gprc.ab.ca. The lectures and seminars will be by remote delivery. Lectures are Monday and Wednesday 2:30 – 3:50 PM and seminars are Monday 11:30 AM – 12:20 PM or Friday 10:00 – 10:50 AM.

● For the onsite components, students must supply their own mask and follow GPRC Campus Access Guidelines and Expectations, which are available at: https://www.gprc.ab.ca/doc.php?d=ACCESSGUIDE

● The laboratory component of this course will be in-person, and will be delivered Tuesday or Thursday from 2:30 – 5:20 PM in J130.

OFFICE HOURS: Due to the COVID-19 pandemic, I cannot hold in-person office hours. However, please feel free to contact me via E-mail or phone. If you would like to arrange a meeting through Zoom, please contact me to set up an appointment. I will also be available after online lectures for questions.

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 OR RECOMMENDED TEXT/RESOURCE MATERIALS:

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. **(Recommended)**

2) Gillies, S. L., and Hewitt, S. (eds). 2011. *Biology on the Cutting Edge.* Pearson Canada, Inc., Toronto, ON. **(Required)**

3) *Biology 1080 Laboratory Manual 20210,* University of Alberta. **(Required)**

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, 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 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**

EVALUATION:		
	Laboratory	40%
	Seminar	10%
	Midterm	20% (October 21, 2020)
	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	93 - 100	C+	2.3	67 - 70
A	4.0	87 - 92	C	2.0	63 - 66
A-	3.7	83 - 86	C-	1.7	60 - 62
B+	3.3	79 - 82	D+	1.3	55 - 59
B	3.0	75 - 78	D	1.0	50 - 54
B-	2.7	71 - 74	F	0.0	0 - 49

COURSE SCHEDULE/TENTATIVE TIMELINE:

Lectures: Start September 2, 2020, Mon and Wed, Online (Zoom), 2:30 – 3:50 PM.
Laboratories: Start September 8, 2020, Tues or Thurs. J130, 2:30 – 5:20 PM
Seminars: Start September 7, 2020, Mon 11:30 AM – 12:20 PM, or Fri 10:00 – 10:50 AM, Online (Zoom)

Topic	Recommended Textbook Reading
1. Introduction to Biology	1-28; 355-356 (Section on Genetic Code)
2. Taxonomy, Phylogeny & Systematics	579 - 602
3. Descent with Modification	492 - 509
4. Evolution of Populations	510 - 529
5. Speciation	530 - 549
6. History of Life on Earth	550 - 579
7. “Protista”	625-651
8. Plants Diversity I: Seedless Plants	652-671
9. Plant Diversity II: Seed Plants	672-691; 867-871
10. Fungi	692-711
11. Introduction to Animals	712-725
12. Introduction to Invertebrates	726-758
13. Introduction to Chordates	759-784

STUDENT RESPONSIBILITIES: For our first laboratory, please bring a copy of the lab manual (available from the bookstore) and a mask. Masks will be required for science labs during the Fall 2020 semester. If you cannot make it to the laboratory due to an illness or another compelling reason, please contact the instructor and let her know. Do not attend the laboratory if you are ill. The Zoom lecture and seminar sessions can be accessed through the course Brightspace website through the "Zoom" option at the top of the page.

There will be a calendar placed on the course Brightspace page containing due dates for quizzes, assignments, and exams. Students are responsible for completing and submitting work on time. Late assignments will be docked 10% of the mark. However, if you have a compelling reason for requiring an extension, please contact the instructor.

The final exam, midterm, and seminar quizzes will be delivered online. The final exam and midterm will have a time limit and must be completed individually. The midterm will be available online during the class period on October 21, 2020, and the final exam will be available online during the scheduled time period during exam week. The laboratory final will be delivered during the last laboratory period and will be conducted in person.

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: Copies of the lecture PowerPoint presentations will be made available on Brightspace. I recommend printing out copies of the PowerPoint files or the lecture guides (these will be Word documents) prior to class and writing additional notes on them during lecture. Other learning resources, including practice exam questions, will be added to the page during the semester.

ACCESSIBILTY SUPPORTS AND DISABILITY SERVICES: If you require disability-related accommodations and support, please contact the Accessibility Supports and Disability Services office. Their Email address is asds@gprc.ab.ca and their website is https://www.gprc.ab.ca/services/accessibility/ .

MENTAL HEALTH SUPPORTS: GPRC students have access to mental health counselling services. Please do not hesitate to seek help if you are suffering from issues such as anxiety, depression, trauma, grief, or any coping-related concerns. Go to http://www.mystudentsupport.com/ or call 1-855-849-8641 to speak to a counsellor.