UNIVERSITY OF CALGARY
FACULTY OF SCIENCE

Department of Biological Sciences
BI 186
403 220-5261
biosci@ucalgary.ca

COURSE OUTLINE

1. **Course:** BIOL 205, The Organization and Diversity of Life - Spring 2021

   Lecture 01: MWF 13:00 - 14:50 - Online

Instructor	Email	Phone	Office	Hours
Dr. G.L. Powell	lpowell@ucalgary.ca	403 220-7638	BI 379B	By appointment.

As with in person classes, students are expected to behave in a professional and respectful manner during online teaching and learning sessions, and when using course tools such as discussion boards. The chat function in an online program such as Zoom is reserved to ask questions in a respectful manner or to respond to questions posed in class. The chat function must not be used for posting disrespectful comments towards other students or the course instructor, nor be used for having side-conversations, including private chats. The lectures given on Zoom will be recorded, and as part of this process, ALL chats (including private chats) will be included in the history. Please be sure to not type anything in the chat that you would not be comfortable with the instructional team seeing.

Recorded lectures will be available on the course D2L page until the end of the semester.

Online Delivery Details:

This course is being offered online in real-time via scheduled meeting times, you are required to be online at the same time.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

This course has a registrar scheduled, synchronous final exam. The writing time is 1 hours + 50% buffer time.

Lectures and assessments will be delivered synchronously on D2L.

Lectures will be recorded and posted on the D2L course page.

Course Site:

D2L: BIOL 205 L01-(Spring 2021)-The Organization and Diversity of Life

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

   See section 3.5.C in the Faculty of Science section of the online Calendar.

3. **Grading:**

   The University policy on grading and related matters is described in F.1 and F.2 of the online University Calendar.

   In determining the overall grade in the course the following weights will be used:

Component(s)	Percentage	Date
Online Quiz 1	25%	May 14, 2021 14:00-14:50
Online Quiz 2	25%	May 26, 2021 14:00-14:50
Online Quiz 3	25%	June 4, 2021 14:00-14:50
Final Exam (Quiz 4)	25%	TBA-scheduled by the Registrar

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**
Minimum % Required	95 %	90 %	85 %	80%	75%	70 %	65 %	60%	55%	50 %	45 %

Assessment will be through quizzes delivered on D2L in class, on the days and times indicated above. Each is designed to take 33 minutes to write and students will have an additional 17 minutes to account for any technical issues, for a total time of 50 minutes. Each will be open during the second hour of the lecture. Time will be adjusted for students registered with SAS students if necessary, and accommodations will be made for students with issues that preclude them taking the test with the rest of the class (child-care issues, residence in a very different time zone, accessing a suitable test-taking environment) - please contact Dr. Powell well in advance of any quiz to which such requirements apply.

The quizzes will not be cumulative - a breakdown of the topics covered in each quiz will be posted on the course D2L site before each quiz.

The last quiz will be given in the scheduled final exam period. The final exam will simply cover the material covered in lecture since Quiz 3.

This course will have a final exam that will be scheduled by the Registrar. The Final Examination Schedule will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 1 hours.

The final exam will be administered using an on-line platform. Per section G.5 of the online Academic Calendar, timed final exams administered using an on-line platform, such as D2L, will be available on the platform. Due to the scheduling of the final exams, the additional time will be added to **the end** of the registrar scheduled **synchronous** exam to support students. This way, your exam schedule accurately reflects the **start time** of the exam for any **synchronous** exams. E.g. If a **synchronous** exam is designed for 2 hours and the final exam is scheduled from 9-11am in your student centre, the additional time will be added to the **end** time of the **synchronous** exam. This means that if the exam has a 1 hour buffer time, a synchronous exam would start at 9 am and finish at 12pm.

4. **Missed Components Of Term Work:**

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

5. **Scheduled Out-of-Class Activities:**

There are no scheduled out of class activities for this course.

6. **Course Materials:**

Recommended Textbook(s):

> Reece JB, Taylor MR, Simon EJ, Dickey JL, Scott KG-E. ,*Campbell - Biology: Concepts and Connections. 2nd Custom Edition for Univ. of Calgary - digital version with MasteringBiology*: Pearson Education Inc..

The the printed version of the text is no longer available. The MasteringBiology that comes with the digital version of the text is intended, for the purposes of this course, as enrichment material only.

Incomplete copies of the lecture slides will be posted on the course D2L page before the corresponding lectures. Lectures will be simultaneously recorded and the recordings posted on the course D2L site after the lectures.

Links to articles or videos relevant to topics being covered in lecture may be posted from time to time on the course D2L site. These are for those who wish to delve deeper into particular topics and do not constitute course material for which you are responsible.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC ELearning online website.

7. **Examination Policy:**

> Students are to complete each online assessment individually. The assessments are closed book. You may not access your lecture notes or any other resources during assessments. No other aids are allowed on assessments, including accessing internet resources such as search engines (Google, etc.), other websites, shared documents (Google docs etc.) or chat servers (Discord, WhatsApp, etc.), etc., and you are specifically prohibited from working with or contacting any other individuals while you complete the assessment. Violation of these rules is considered academic misconduct with penalties as described in the University Calendar section K.
>
> All written portions of any assessment are to be written in your own words.
>
> IMPORTANT: It is the student's responsibility to ensure that they have adequate computer and internet access to write the assessments. Students will be required to begin their assessments promptly at the start of the scheduled period in class on the day of the assessment. If a student encounters any technical issues in starting an assessment, they MUST document the issue by taking a photo, screenshot, or video, and they must contact the instructor immediately so that either additional time can be provided to access the assessment or alternative arrangements made. **Students claiming such difficulties who do not contact their instructor providing evidence of technical difficulties within 15 minutes of the scheduled start of the assessment will not be allowed to write the assessment and will receive a grade of zero (0) on the assessment.** If a student's assessment is suspended during the assessment (lost internet connection, internet browser crashes etc.), they MUST provide evidence as outlined above and contact the instructor immediately. Students will then be granted re-entry to suspended assessment if they began the assessment on time, provided evidence of the suspension, and still have time remaining to complete their assessment.

Students should also read the Calendar, Section G, on Examinations.

8. **Approved Mandatory And Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course.

9. **Writing Across The Curriculum Statement:**

   For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section E.2 of the University Calendar.

   Writing quality will be included in assessments of written assignments. All written assignments must be written in the student's own words.

10. **Human & Living Organism Studies Statements:**

    Students will not participate as subjects or researchers in human studies.

    See also Section E.5 of the University Calendar.

    STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS. Students taking laboratory and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

    All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

    Students are expected to be familiar with Section SC.4.1 of the University Calendar.

11. **Reappraisal Of Grades:**

    A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See Section I.3 of the University Calendar.

    a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections I.1 and I.2 of the University Calendar

    b. **Final Exam:**The student shall submit the request to Enrolment Services. See Section I.3 of the University Calendar.

12. **Other Important Information For Students:**

    a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, Mental Health Services Website) and the Campus Mental Health Strategy website (Mental Health).

    b. **SU Wellness Services:** For more information, see www.ucalgary.ca/wellnesscentre or call 403-210-9355.

    c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at 403-220-2208. The complete University of Calgary policy on sexual violence can be viewed at (https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf)

    d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional Code of Conduct and promote academic

integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

Student Handbook on Academic Integrity
Student Academic Misconduct Policy and Procedure
Research Integrity Policy

Additional information is available on the Student Success Centre Academic Integrity page

e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at procedure-for-accommodations-for-students-with-disabilities.pdf.

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head, Undergraduate of the Department of Biological Sciences, Heather Addy by email addy@ucalgary.ca or phone 403 220-6979. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See Section E.4 of the University Calendar.

f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see Legal Services website.

g. **Student Union Information:** VP Academic, Phone: 403-220-3911 Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: 403-220-3913 Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: ombuds@ucalgary.ca.

h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction (USRI) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or non-academic misconduct, in addition to any other remedies available at law.

Lecture Topics	**Text Chapters**
Course Introduction – Biology as a Science	1
Cellular Structure - macromolecules	2, 3
Cellular Structure – organelles	4
Cellular Function	5
Cell Energetics	5
Cellular Reproduction	8
The Genetic Code	10
Inheritance & Genetics	9
Biodiversity: A Survey of the Living World	No Reading
Evolution I: Introduction to Evolutionary Biology	13
Evolution II: Mechanisms of Evolution	14

Evolution III: Speciation	15
Evolution IV: Phylogeny and the Tree of Life	15
Evolution V: Evolution of the Vertebrates	21
Populations and Life History	No Reading
The Biosphere	No Reading

Course Outcomes:

- Describe the scientific method and hypothesis-based science.
- Describe how different atoms join together with either covalent, polar covalent or ionic bonds.
- Analyze how these bonds give rise to molecules that are non-polar, polar or charged and how these attributes affect their solubility in water.
- Understand the properties of water and how they are important to life.
- Describe how smaller molecules with varying degrees of polarity are polymerized into macromolecules that have different structures inside the cell depending on their overall polar or nonpolar characteristics
- Describe how macromolecules combine with each other to form organized internal cellular structures that are capable of extracting energy from other molecules in order to allow cells to grow and reproduce
- Explain the key concept of Cell Theory
- Describe the differences between mitosis and meiosis and explain why single-gene dominant/recessive Mendelian inheritance does not apply to phenotypes that are characterized by more than one gene
- Explain the mechanism of evolution by natural selection and how it works within populations to produce evolutionary change.
- Describe how adaptations in morphology, behavior and other features of organisms enhance their reproductive success.
- Understand the nature of species, and how macroevolutionary processes produce new species from ancestral species.
- Understand the nature of phylogenies.
- Be familiar with the major divisions of the living world and the characteristics defining them
- Be familiar with the major groups of vertebrates and their evolution
- Understand basic population ecology and the fundamental divisions of the biosphere.

Electronically Approved - Apr 30 2021 12:00

Department Approval