



COURSE OUTLINE

1. **Course:** BIOL 205, The Organization and Diversity of Life - Spring 2023

Lecture 01 : MWF 13:00 - 14:50 in ES 162

| Instructor | Email | Phone | Office | Hours |
|-------------------|------------------------|--------------|---------------|----------------|
| Carly Chan | carly.chan@ucalgary.ca | TBA | TBA | by appointment |

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

In Person Delivery Details:

Lectures will be delivered in-person during scheduled lecture time and they will not be recorded. The midterm exam is an in-person, closed-book examination of the materials covered in the first half of the course and will be completed during scheduled lecture time. The cumulative final exam (scheduled by the Registrar) is an in-person, closed book examination of all the materials covered in the course.

Course Communication

Please note that all course communications must occur through either the student's @ucalgary email or the D2L Question/Answer Discussion forum. Teaching assistants and instructors will make an effort to respond within 24 hours during the work week, except on weekends and holidays.

Re-Entry Protocol for Labs and Classrooms:

To limit the spread of COVID-19 on campus, the University of Calgary has implemented safety measures to ensure the campus is a safe and welcoming space for students, faculty and staff. The most current safety information for campus can be found [here](#).

Course Site:

D2L: BIOL 205 L01 - (Spring 2023) - The Organization and Diversity of Life

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

Equity Diversity & Inclusion:

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

The Biological Sciences Equity Committee acknowledges there are persistent barriers that prevent such accessibility and hinder our progress towards EDI. Our representatives (faculty, staff, postdocs, graduate and undergraduate students) are committed to addressing any concerns and work towards proactive solutions that enact necessary change within the department. To submit anonymous questions, comments or concerns regarding EDI related issues, please reach out to our Chair, Constance Finney (constance.finney@ucalgary.ca), or a committee representative of your choice at <https://science.ucalgary.ca/biological-sciences/about/equity-diversity-and-inclusion>

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:

| Course Component | Weight | Due Date (duration for exams) | Modality for exams | Location for exams |
|---------------------------------------------|--------|-----------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------|
| Assignments ¹ | 40% | Ongoing | | |
| Midterm Exam ² | 25% | May 31 2023 at 01:00 pm (2 Hours) | in-person | ES 162 |
| Registrar Scheduled Final Exam ³ | 35% | Will be available when the final exam schedule is released by the Registrar | in person | Will be available when the final exam schedule is released by the Registrar |

¹ There will be two assignments each worth 20%. The assignment details will be introduced in class and posted on D2L at least one week before the assignment deadline. Students will complete the assignment outside of scheduled class time and submit it through D2L. The deadlines for Assignment 1 is May 24 at 12:00pm and Assignment 2 is June 14 at 12:00pm.

² The midterm exam is an in-person, closed-book examination that will assess students' understanding of the lecture content covered in the first half of the course from May 3 to May 19.

³ The final exam will be cumulative and will assess students' understanding of all lecture content covered in the course. This exam will take place within the scheduled final exam period, between June 19-21. The official date and location of the final exam will be 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% | 53 % | 50 % |

Grades will be reported to two decimal places. Final grades will be rounded up to the nearest whole number. There is no opportunity for replacement, extra, or bonus course work.

This course will have a Registrar Scheduled Final exam that will be delivered in-person and on campus. [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 2 hours.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

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 or in-person 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):

Clark et al., *Biology 2nd edition*: OpenStax (Access for free: <https://openstax.org/details/books/biology-2e>).

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:

The midterm and final exams will be administered in-person. The exams are closed-book as such no aids are allowed during exams, including notes, books, internet resources, or assistance from peers. It is also the student's responsibility to ensure that they come to their exam prepared and on time.

The time will be adjusted for SAS students if needed, in which case, the students must contact [Student Accessibility Services](#) to book their exam and notify the instructor at least 7 days before the exam.

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.

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.

- 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
- 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 their [website](#) 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 (syva@ucalgary.ca) or phone at [403-220-2208](#). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- d. **Student Ombuds Office:** A safe place for all students of the University of Calgary to discuss student related issues, interpersonal conflict, academic and non-academic concerns, and many other problems.
- e. **Student Union Information:** [SU contact](#), Email your SU Science Reps: science1@su.ucalgary.ca, science2@su.ucalgary.ca, science3@su.ucalgary.ca,
- f. **Academic Accommodation Policy:**

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Lisa Gieg by email imgieg@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

- g. **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](#)
[Faculty of Science Academic Misconduct Process](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- h. **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.
- i. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). 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.

- j. **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.

Tentative Course Schedule

| Week | Day | Date | Lecture Topic | Assessment Deadlines |
|-------------|-----|------------|--------------------------------------------------|-------------------------|
| 1 | Wed | May 3 | Course Introduction and History of Life | |
| | Fri | May 5 | Early Biology Theories | |
| 2 | Mon | May 8 | Biological Macromolecules and Cellular Structure | |
| | Wed | May 10 | Central Dogma | |
| | Fri | May 12 | Cellular Processes | |
| 3 | Mon | May 15 | Scientific Literacy | |
| | Wed | May 17 | Genetics and Inheritance | |
| | Fri | May 19 | Genetics and Inheritance | |
| 4 | Mon | May 22 | <i>No classes (Victoria Day)</i> | |
| | Wed | May 24 | Ecology and Ecosystems | Assignment 1 Due |
| | Fri | May 26 | Biodiversity and Conservation Efforts | |
| 5 | Mon | May 29 | Review | |
| | Wed | May 31 | Midterm Exam | |
| | Fri | June 2 | Bacteria and Viruses | |
| 6 | Mon | June 5 | Infectious Diseases | |
| | Wed | June 7 | Immunology | |
| | Fri | June 9 | Antibiotics | |
| 7 | Mon | June 12 | Vaccines | |
| | Wed | June 14 | Guest lecture | Assignment 2 Due |
| Exam Period | | June 19-21 | Final exam scheduled by Registrar | |

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 - May 02 2023 08:10

Department Approval