



## COURSE OUTLINE

### 1. **Course:** BIOL 331, Introduction to Cellular and Molecular Biology - Summer 2022

Lecture 01 : MWF 09:30 - 11:20 in SB 144

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 and tutorials will be delivered in-person as scheduled and attendance to your registered tutorial will be **mandatory**. Students will be asked to work in pre-assigned teams for the tutorial component of this course. To ensure that we can form the most diverse teams possible, we will make use of the ITP Metrics system to form teams. To help with team formation, students will be asked to complete a survey early in the semester. Once the teams are formed, students will be asked to work with their teammates on graded tutorial work throughout the semester. To ensure individual accountability in all team-based work, students will be asked to use the ITP Metrics system to evaluate the contributions of each team member and these evaluations will be used when assigning the final grade for tutorial component. The tutorial sections are as follows:

T01: TuTh 9:00-9:50am in ST 59

T02: TuTh 10:00-10:50am in ST 59

#### **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 331 L01-(Summer 2022)-Introduction to Cellular and Molecular Biology

**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](mailto: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.

#### **Prerequisite(s):**

Biology 311.

**Antirequisite(s):**

Credit for Biology 331 and Medical Science 351 will not be allowed.

**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
Weekly D2L Quizzes <sup>1</sup>	12%	Ongoing		
Tutorial Team Worksheets <sup>2</sup>	24%	Ongoing		
Tutorial Team Peer Assessments <sup>3</sup>	4%	Ongoing		
Midterm Exam <sup>4</sup>	25%	Jul 22 2022 at 09:30 am (2 Hours)	in-person	SB 144
Registrar Scheduled Final Exam <sup>5</sup>	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

<sup>1</sup> There will be a total of 6 quizzes worth 2% each. Quizzes are designed to give you opportunities to practice and assess students' understanding of the lecture material. Quizzes will be available every Friday and will be due the following Wednesday at 11:59pm.

<sup>2</sup> There will be a total of 8 tutorial worksheets, each worth 3%. Students will work together in teams during the scheduled tutorial times to complete group worksheets (due at the end of every tutorial).

<sup>3</sup> There will be a mid-semester and end-of-semester peer assessment to be completed by members of each students' tutorial team through ITP metrics.

<sup>4</sup> The midterm exam will assess students' understanding of the lecture and tutorial content covered so far. This exam will take place on Friday July 22 in SB144 during scheduled class time (9:30-11:20am).

<sup>5</sup> The final exam will be accumulative and will assess students' understanding of the lecture and tutorial content covered in the course. This exam will take place within the scheduled final exam period, between Aug. 12-15. 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
<b>Minimum % Required</b>	95 %	90 %	85 %	80%	75%	70 %	65 %	60%	55%	50 %	45 %

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 3 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 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.

Due to the design of the course's tutorials, a student **are permitted to only miss one in-person tutorial**. Students must contact their TA and their instructor within 48 hours. Accommodations for missed in-person components will be made on a case-by-case basis. Additional absences will result in a zero grade in that tutorial.

All exams are in-person. If a student legitimately misses the exam, the student will write an alternative exam.

Quizzes are online and open for a long duration as such missed quizzes will not be accepted at a later date unless under extenuating circumstances.

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

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

#### 6. **Course Materials:**

Recommended Textbook(s):

Janet Iwasa and Wallace Marshall, *Karp's Cell and Molecular Biology (9th Edition)*: Wiley.

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 time will be adjusted for SAS students if needed, in which case, they must contact the the instructor at least a week before the exam is set to take place. The exams are closed-book as such no aids are allowed during exams, including notes, books, internet resources, or assistance from peers. Violation of these rules is considered academic misconduct with penalties as described in the University Calendar section K. It is also the student's responsibility to ensure that they come to their exam prepared and on time.

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.

- 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.

**Tutorial work:** The student must first make a written request to their TA, indicating the issue and the reason for the request within one week of receiving their initial grade.

## 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 ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](#). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- 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](#)  
[Faculty of Science Academic Misconduct Process](#)  
[Research Integrity Policy](#)

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

**e. 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](mailto:imgieg@ucalgary.ca) preferably 10 business days before the due date of an assessment or scheduled absence.

**f. Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). 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:** [SU contact](#), Email SU Science Rep: [sciencerep1@su.ucalgary.ca](mailto:sciencerep1@su.ucalgary.ca), [Student Ombudsman](#)

**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.

## Tentative Course Schedule

Week	Day	Date	Lecture Topic	Assessment Deadlines	Tutorial
1	Mon	June 27	Introduction and Review		
	Tues	June 28			
	Wed	June 29	The Plasma Membrane		
	Thurs	June 30			No tutorial
	Fri	July 1	No class (Canada Day)		
2	Mon	July 4	Membrane Transport and Action Potential	ITP Metrics Survey	
	Tues	July 5			Tutorial 1
	Wed	July 6	Endomembrane System	Quiz 1	
	Thurs	July 7			Tutorial 2
	Fri	July 8	Endomembrane System		
3	Mon	July 11	The Cytoskeleton		
	Tues	July 12			Tutorial 3
	Wed	July 13	The Cytoskeleton	Quiz 2	
	Thurs	July 14			Tutorial 4

	Fri	July 15	Genetic Organization		
4	Mon	July 18	Epigenetics and Stem Cells		
	Tues	July 19			Tutorial 5
	Wed	July 20	Plant Cell Biology	Quiz 3	
	Thurs	July 21			<i>No tutorial</i>
	Fri	July 22	<b>Midterm Exam (during class)</b>		
5	Mon	July 25	Cell Interactions	Mid-Semester Peer Assessment	
	Tues	July 26			Tutorial 6
	Wed	July 27	Cell Communication	Quiz 4	
	Thurs	July 28			Tutorial 7
	Fri	July 29	Cell Communication		
6	Mon	Aug. 1	<i>No class (Alberta Heritage Day)</i>		
	Tues	Aug. 2			Tutorial 8
	Wed	Aug. 3	Regulation of Gene Expression	Quiz 5	
	Thurs	Aug. 4			Tutorial 9
	Fri	Aug. 5	Cell Cycle		
7	Mon	Aug. 8	Cancer	End-of-Semester Peer Assessment	
	Tues	Aug. 9			<i>No tutorial</i>
	Wed	Aug. 10	Cancer	Quiz 6	
Exam Period	Aug. 12-15 TBA		<b>Final exam scheduled by Registrar</b>		

**Course Outcomes:**

- Explain how macromolecules interact to support cell structure, function, dynamics and responses to environmental signals
- Describe the evolutionary diversity of cells, and how this diversity contributes to tissue and whole organism function
- Apply knowledge and technical understanding of cell and molecular biology to interpret experimental data

Electronically Approved - Jun 24 2022 10:53

**Department Approval**