



COURSE OUTLINE

1. **Course:** BIOL 401, Evolutionary Biology - Winter 2023

Coordinator(s)

Name	Email	Phone	Office	Hours
Dr Samuel Yeaman	samuel.yeaman@ucalgary.ca	403 220-6126	BI 394	TBA

Section(s)

Lecture 01 : MWF 10:00 - 10:50 in SA 106

Instructor	Email	Phone	Office	Hours
Dr Mindi Summers	mind.summers@ucalgary.ca	403 220-8761	BI 041	TBA
Dr Samuel Yeaman	samuel.yeaman@ucalgary.ca	403 220-6126	BI 394	TBA

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:

Lecture: 01 MWF 10:00-10:50 SA 106

Tutorials:

01 T 13:00-13:50 BI 561

02 T 14:00-14:50 BI 561

03 T 15:00-15:50 BI 561

04 T 16:00-16:50 BI 561

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 401 L01-(Winter 2023)-Evolutionary 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), 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 313 and 315.

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
Tutorial presentations ¹	6%	Ongoing		
Tutorials	33%	Ongoing		
Surveys and intro/wrap-up activities	2%	Ongoing		
Evolutionary event report ²	8%	Jan 26 2023		
Quiz 1	13%	Feb 03 2023		
Beak of the finch reading quiz & discussion	4%	Mar 01 2023		
Quiz 2	13%	Mar 08 2023		
Evolutionary abstract	8%	Apr 11 2023		
Quiz 3	13%	Apr 12 2023		

¹ Takes place during tutorials

² Submit padlet

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 %

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.

Missed in-person components

In an effort to maintain a safe and healthy campus community, everyone is asked to stay home and not attend campus if feeling ill. Please see the covid-safe campus website (<https://www.ucalgary.ca/risk/emergency-management/covid-19-response>) for more information. The following information and guidelines are provided in the event of a missed in-person component for health or other university-sanctioned reasons. Please see university guidelines for missed components of term work (Calendar section 3.6), and note the requirement for notification **within 48 hours**.

In the event of a missed lecture...

You do not need to provide notification or justification for missing lecture. If you miss a scheduled lecture, you should review the lecture recording and complete the lecture notes. You can then bring any questions regarding the lecture and in-class questions and discussions to student hours.

TopHat bonus: If you complete 85% or more of the TopHat questions, you will earn 0.5% added onto your final mark. Meeting 85% completion allows for several missed lectures. There will not be opportunities to complete the TopHat or in-class questions outside of the scheduled lecture time. If you would like to replace any missed questions for a lecture, you can write AND answer three short-answer questions based on the material in the lecture. These three questions should be open-ended questions (meaning they cannot be answered with a yes/no or few words). Both the questions and responses will be primarily evaluated for completion. Submissions must be completed with 48 hours of the missed lecture to replace missed lecture questions.

In the event of a missed tutorial...

Attendance at your assigned tutorial session is required to complete and engage in the tutorial assignments. In the event of a missed tutorial, please contact Dr. Summers (Jan 9-Feb 3) or Dr. Yeaman (Feb 3-April 12) as soon as possible, and within 48 hours of the missed tutorial. If notified early, we will work with you to make arrangements to attend a different tutorial section if possible. If another section cannot be attended and you have a university-sanctioned absence, you will receive an "excused" for the tutorial and your mark for tutorial assignment will be weighted on other tutorial assignments. A maximum of two excused absences will be permitted for the entire term. In the event of three or more excused absences, you will be given an alternative assignment to complete within one week of your missed tutorial. In the event of missing your tutorial presentation, your tutorial presentation weight will be adjusted to your other presentation. If both presentations are missed, you will be given an alternative assignment to complete within two weeks of your second missed tutorial presentation.

Unexcused tutorials (non-university sanctioned absences) will receive a mark of zero for in-person participation and the discussion goal (4 of the 6 points or 66% of the tutorial mark). If the pretutorial reflection is complete and submitted ahead of the tutorial, you can earn up to 2 of the 6 points for this component; 33% of tutorial mark). Each tutorial is worth 3% of your final mark, but you are not required to complete a specific number of tutorials or pass the tutorial component of the course.

In the event of a missed quiz...

Attendance during lecture is required to complete the quizzes. In the event of a missed quiz, please contact Dr. Yeaman as soon as possible, and within 48 hours. You will then be given an opportunity to sit an alternative quiz of the same format at another time as soon as possible. If you miss your scheduled quiz, you will not be able to participate in the optional group component.

Missed deadlines for out of class activities

A 10% deduction per day late will be applied to all out-of class assignments submitted after the deadline, with assignments not accepted after one week (five business days). The D2L DropBox will remain open after the deadline to allow late submissions, and your mark will receive a deduction. You therefore do not need to email the instructional team regarding late submissions.

A 10% deduction will be applied for:

- Evolutionary events report
- Beak of the Finch activities (quiz, D2L discussion board)
- Evolutionary abstract
- Surveys and course introduction/wrap-up activities

Late submissions will not be accepted for:

- Quizzes
- Tutorial assignments
- Tutorial presentations

5. Scheduled Out-of-Class Activities:

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

6. Course Materials:

Required Textbook(s):

Jonathan Weiner, *The beak of the finch: a story of evolution in our time* Vintage.

Recommended Textbook(s):

Bergstrom and Dugatkin, *Evolution*: Norton.

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:**

No aids are allowed on tests or examinations.

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:**

If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested.

See also [Section E.5](#) of the University Calendar.

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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.

Grades for all assignments and activities will be posted on D2L within one week of receipt of assignments. It is your responsibility to review your posted mark and notify Dr. Yeaman if an assignment that you completed is marked as "not received" within 48 hours of posting. Documentation will be required, including email receipt of your submission to D2L and your submission with a time-stamp dated before the due date.

If you would like to have your work re-appraised after the posting of your mark, please first join student hours or contact Dr. Yeaman or Dr. Summers for an appointment to review and discuss your work. Note: your GTAs cannot reappraise your grade. If you would like to request a reappraisal, you must submit your request with a full rationale and description of how your work meets the grading criteria to Dr. Yeaman within ten business days of the mark being posted on D2L. Non-academic grounds are not relevant for grade reappraisals. Please be aware that the grade can be raised, lowered, or remain the same. See Section I.3 of the University Calendar for more information on grade reappraisals.

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) 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 (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.
- 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.

Week	Lecture Topic	Tutorial Topic	Assignments & Due Dates
1 Jan 9-13	M - Course Introduction W - Speciation F - Species Concepts & Taxonomy	Introduction	M: Team Formation Survey (by 23:59) F: Surveys & Course Intro Activities (by 23:59)
2 Jan 16-20	M - Tree-thinking I W - Tree-thinking II F - Phylogenetics	Dog breeds	T: Tutorial 1 (in tutorial)
3 Jan 23-27	M - Fossil record W - Diversity trends F - Key evolutionary events	Plants & agriculture	T: Tutorial 2 (in tutorial) Th: Evolutionary event project (by 23:59)
4 Jan 30-Feb 3	M - Symbiosis W - Coevolution F - Quiz 1	Covid-19 and pandemics	T: Tutorial 3 (in tutorial)
5 Feb 6-10	M - History of evolutionary biology W - A case-study of evolution in nature F - Evolutionary genetics: 1-locus model	Epigenetics	T: Tutorial 4 (in tutorial)
6 Feb 13-17	M - Evolutionary genetics: 2-locus model W - Evolutionary genetics: 2-locus model F - Evolutionary genetics: patterns in nature	Paleo art	T: Tutorial 5 (in tutorial)

Class Break			
7 Feb 27-Mar 3	M - Genetic drift W - Genetic drift F - Genetic drift in nature	Beak of the Finch	M: Beak of Finch quiz and discussion board (by 23:59) T: Tutorial 6 - Beak of the Finch (in tutorial)
8 Mar 6-10	M - Population structure W - Quiz 2 F - Population structure	Wildlife forensics	T: Tutorial 7 (in tutorial)
9 Mar 13-17	M - Population structure in nature W - Quantitative genetics F - Selection on the phenotype	De-extinction	T: Tutorial 8 (in tutorial)
10 Mar 20-24	M - Local adaptation W - Single-locus models of selection F - Single-locus models of selection	Human influences on evolutionary rates of change	T: Tutorial 9 (in tutorial)
11 Mar 27-Mar 31	M - Drift vs. selection W - Drift vs. selection F - Evolution and patterns in the genome	Citizen science	T: Tutorial 10 (in tutorial)
12 Apr 3-7	M - Evolution and patterns in the genome W - Evolutionary timeline F - Special topics in evolution	Human evolution: past and future	T: Tutorial 11 (in tutorial)
13 Apr 10-12	M - Holiday W - Quiz 3	NA	T: Evolutionary Abstract (by 23:59) W: Surveys & Course Wrap-Up Activities (by 23:59)

Course Outcomes:

- **Evaluate and explain the main points of peer-reviewed evolutionary biology articles**
- **Communicate opinions on current topics in evolutionary biology orally in small discussions and presentations**
- **Analyze the differences and complementarities of micro-and macroevolution**
- **Critique the soundness of arguments made about evolution made in social media, the news, etc.**
- **Explain how the main evolutionary processes interact to shape patterns of biological diversity**

Electronically Approved - Jan 05 2023 11:46

Department Approval