



## COURSE OUTLINE

### 1. **Course:** SCIE 501, Project Course In Natural Science - Winter 2024

Lecture 01 : TR 14:00 - 15:15 in HNSC 128

Instructor	Email	Phone	Office	Hours
Dr Jan Ciborowski	jan.ciborowski@ucalgary.ca	403 220-7465	BI 398	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:**

We will follow a lecture and discussion/tutorial format, following several themes relating to development and refinement of a research question. A theme will typically involve

- a) introducing a concept/step and its application and challenges (short lecture)
- b) an assigned task/reading demonstrating an application or example of the topic
- d) a group discussion/problem solving challenge based on synthetic or real ideas or data
- c) working in groups or individually to perform an analysis/reach a conclusion

We will discuss approaches to research and analysis at the beginning of the course, and the detailed development of methods and assessment later.

During a session in February, student groups will each be asked to describe a research question and suggest some credible answers (postulates). Research outlines will be summarized in tutorial and evaluated by the class. Groups will provide written feedback to one another using a standard review form. Each group will write a "*Letter of Intent*" draft proposal summary explaining how they will investigate their question (collect data) to distinguish among their postulates. The outline will be due in lecture on the Friday before reading week.

Following Reading Week, each team will receive feedback compiled by the other groups given in tutorial and use this information to continue developing their proposal. We will also invite experts in various fields (UCalgary Faculty) to visit with individual groups and provide guidance on technical matters.

Over the final weeks of the course, each group will refine, write and submit a revised, research proposal explaining how they would execute their study. Each group will present their proposal orally to other members of the class.

#### **Online Delivery Details:**

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects 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.

Some group presentations delivered to other class members will be delivered synchronously via Zoom. In addition, members of each group will likely wish to meet together remotely outside of class hours. As a courtesy to your team members and instructors please activate your video link when you are engaging with them in online discussions or dialogue.

#### **Course Site:**

D2L: SCIE 501 L01-(Winter 2024)-Project Course In Natural Science

**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.

## 2. Requisites:

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

### Prerequisite(s):

75 units (12.5 full-course equivalents) and admission to the Natural Sciences program.

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
Individual work; e.g. participation in weekly discussions, individually-assigned worksheets <sup>1</sup>	20%	Ongoing		
Individual and group work submitted to D2L; e.g. rubric design, In-class assessments of scientific questions <sup>2</sup>	22%	Ongoing		
Group presentation of provisional Research Plan <sup>3</sup>	8%	Ongoing		
Group research proposal final presentation <sup>4</sup>	10%	Ongoing		
Group research proposal Letter of Intent <sup>5</sup>	10%	Feb 16 2024		
Group final written research proposal <sup>6</sup>	30%	Apr 09 2024		

<sup>1</sup> Oral contributions during discussion sessions (excellent, good, OK, inadequate); see D2L sites for details

<sup>2</sup> oral contributions during panel review sessions (excellent, satisfactory, could be better); see D2L site for details

<sup>3</sup> Due February 8 or February 13; See D2L site for specific dates

<sup>4</sup> Due during the week of April 1. See D2L site for specific dates

<sup>5</sup> See D2L site for specific details

<sup>6</sup> See D2L site for details

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	92 %	88 %	84 %	80%	76%	72 %	68 %	64%	60%	56 %	50 %

Each piece of work (reports, assignments, quizzes, or presentations) 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

No presentations may be delivered late. No written submissions will be accepted more than one week late.

Late penalty: loss of 10% per day (waived for the first late submission)

Each student's group work score will be weighted, at the instructor's discretion, according to peer evaluations.

Students who choose to work alone will receive 80% of the grade assigned to each item of group work.

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:

In the event that a student legitimately fails to submit any online or in-person assessment on time (e.g. due to illness, domestic affliction, 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, or possible exemption and reweighing of components. Absences not reported within 48 hours will not be accommodated. Students may be asked to provide supporting documentation ([Section M.1](#)) for an excused absence, See [FAQ](#).

If an excused absence is approved, options for how the missed assessment is dealt with is at the discretion of the coordinator or course instructor. Some options such as an exemption and pro-rating among the components of the course 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:**

Background readings: Readings and other materials will be provided on D2L and/or sent to you as an email attachment. You should download, read and have handouts at hand during lecture or discussion.

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 Studies Statement:**

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

See also [Section E.5](#) 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 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. **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](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca), [science3@su.ucalgary.ca](mailto: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 Dr. Nicole Sandblom by email [ntscdirector@ucalgary.ca](mailto:ntscdirector@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.

**Course Outcomes:**

- By the end of the course, the students will be expected to be able to analyze and synthesize a large quantity of diverse information on a topic.
- By the end of the course, the students will be expected to be able to critically assess an existing body of scientific literature, evaluating its significance and identifying its limitations.
- By the end of the course, the students will be expected to be able to apply sound, analytical principles of research design to answer a scientific question.
- By the end of the course, the students will be expected to be able to develop clear and effective oral and written communications.
- By the end of the course, the students will be expected to be able to work effectively in teams.
- By the end of the course, the students will be expected to be able to provide constructive criticism to aid others in developing their research ideas.

Electronically Approved - Jan 05 2024 15:45

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**Department Approval**