



## COURSE OUTLINE

1. **Course:** NEUR 507.36, Special Topics in Neuroscience - Spring 2023, Topic: Campus Field School

### Coordinator(s)

Name	Email	Phone	Office	Hours
Dr Willem Wildering	wilderin@ucalgary.ca	220-5283	BI 462	by appointment only

### Section(s)

Lab 01 : TR 12:30 - 15:45 - Online

Instructor	Email	Phone	Office	Hours
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Lab 01 : MTWRF 09:00 - 17:00 in ST 129

Instructor	Email	Phone	Office	Hours
Dr Willem Wildering	wilderin@ucalgary.ca	220-5283	BI 462	by appointment only

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:

The course provides an introduction to the practice of research in neurobiology using an invertebrate model system. Working in teams of two or three, students will imagine, design, execute and report on a research project of their own invention (within the time frame and technical, logistic, and regulatory constraints of the course). Participants will gain experience working in teams, managing research projects, principles and methods of scientific enquiry and will gather hands-on experience with various basic laboratory skills, data acquisition and analysis, science writing and presenting skills, and various neuroscience research techniques.

The class is offered over a period of three-and-a-half consecutive weeks. After the first introductory week dedicated to getting acquainted with the model system and formulating their research project, students will pursue their own research in weeks two and three under their own direction and (minimal) guidance from the course staff. For this purpose, laboratory and other research facilities and, when needed, technical assistance are available MTWRF 09:00 - 17:00 of weeks two and three.

At the end of the course, research teams will present a seminar on their work and findings.

### 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: NEUR 507.30 B01-(Spring 2023)-Special Topics in Neuroscience

**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) Department Consent Required. : 60 units, admission to the Neuroscience program and consent of the Program Director. MAY BE REPEATED FOR CREDIT

This class is an inquiry-based course that involves traditional lectures in week one, and team-based self-directed research activities in weeks two and three. Class attendance is expected during week one. While there is no fixed class/lab schedule for weeks two and three, students are expected to plan and direct their research during these weeks within the available hours indicated above. Individual students' dedication to, and effectiveness and participation in their team's research effort will be reflected in their participation/professional conduct mark indicated below.

### 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
Participation/Professional Conduct <sup>1</sup>	30%	Ongoing		
Research Proposal <sup>2</sup>	10%	May 16 2023		
Research Presentation <sup>3</sup>	30%	May 31 2023		
Research Report <sup>4</sup>	30%	Jun 02 2023		

<sup>1</sup> evaluation of lab research work - individual evaluation

<sup>2</sup> written and oral presentation by each research-team - group evaluation

<sup>3</sup> Team presentation of research work - group evaluation

<sup>4</sup> Written research report produced by each individual student - individual evaluation

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>	97 %	91 %	85 %	80%	75%	70 %	65 %	60%	55%	50 %	45 %

The above conversion table indicates the minimum percentages required for the various letter grades. No rounding will be applied in these conversions!

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.

The course is held entirely on the University's Main Campus. The course involves laboratory research involving invertebrate animals. Students are required to have a University of Calgary email address to communicate with Instructors and access D2L.

## 6. **Course Materials:**

There is no required textbook for this course. Readings and other required materials will be provided during the course.

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:**

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

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

**STUDIES IN THE BSc NEUROSCIENCE PROGRAM MAY 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 program 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 in the program 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 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](mailto: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](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. Willem Wildering by email [bscndir@ucalgary.ca](mailto:bscndir@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.

### Tentative course schedule Spring 2023 (May 8 - May 31)

#### I. Rationale

The course seeks to provide an authentic scientific research experience, instill an appreciation for the fundamental conservation of the molecular and cellular foundations of nervous system functions and raise awareness for the impact of natural and anthropogenic pollutants upon structure and functions of biological and ecological systems.

#### II. Course Aims and Objectives:

The course provides an introduction to ethology and behavioral neuroscience research, environmental toxicology, hypothesis generation, experimental design, data collection and analysis, techniques, and experimentation. Course objectives include:

- Introduce students to principles of neurophysiology and neurobiology of behavior
- Instill students with an appreciation of the breadth of neuroscience
- Emphasize fundamental conservation of molecular foundations of life
- Introduce students to concept of model systems
- Introduce students to principles and methods of scientific enquiry
- Provide hands on and inspiring research experience
- Promote team working abilities
- Acquire basic laboratory skills

#### Tentative schedule

<b>NEUR 507.36 Spring 2023</b>		<b>Tentative schedule</b>				
<b>WEEK 1</b>		Mon May 8	Tue May 9	Wed May 10	Thu May 11	Fri May 12
	10AM	<b>Welcome &amp; Lecture</b> <i>ST-129</i>	<b>Lectures</b> <i>ST-129</i>	<b>Lectures</b> <i>ST-129</i>	<b>Lectures</b> <i>ST-129</i>	<b>Discussion</b> <i>RESEARCH PROPOSALS</i> <i>ST-129</i>

	<i>lunch</i>				
~ 1 PM	<b>Pre-lab lecture</b> <i>ST-129</i>	<b>Pre-lab lecture</b> <i>ST-129</i>	<b>Pre-lab lecture</b> <i>ST-129</i>	<b>Pre-lab lecture</b> <i>ST-129</i>	
~ 5 PM	<b>Lab</b> <i>BI-196</i>	<b>Lab</b> <i>BI-196</i>	<b>Lab</b> <i>BI-196</i>	<b>Lab</b> <i>BI-196</i>	

**WEEK 2**

	Mon May 15	Tue May 16	Wed May 17	Thu May 18	Fri May 19
9AM			<b>Project Research</b>	<b>Project Research</b>	<b>Project Research</b>
10AM		Written proposal due			
		<b>Project Research</b> <i>BI-196</i>	<i>BI-196</i>	<i>BI-196</i>	<i>BI-196</i>
~ 1:30 PM	<b>PRESENTATIONS</b> RESEARCH PROPOSALS <i>ST-129</i>				
~5 PM					

**WEEK 3**

	Mon May 22	Tue May 23	Wed May 24	Thu May 25	Fri May 26
9AM	<b>Victoria day</b> no labs	<b>Project Research</b> <i>BI-196</i>	<b>Project Research</b> <i>BI-196</i>	<b>Project Research</b> <i>BI-196</i>	<b>Project Research</b> <i>BI-196</i>
~5 PM					

**WEEK 4**

	Mon May 29	Tue May 30	Wed May 31
9AM	<b>Project Research Analysis and preparation talk</b> <i>BI-196</i>	<b>Project Research Analysis and practice talk</b> <i>BI-196</i>	
10AM			
2PM			<b>PRESENTATIONS</b> <i>ST-129</i>



Electronically Approved - May 09 2023 10:25

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**Department Approval**