



## COURSE OUTLINE

### 1. **Course:** NEUR 421, Neuroscience: History, Ethics and Society - Fall 2022

Lecture 01 : TR 09:30 - 10:45 in SB 146

Instructor	Email	Phone	Office	Hours
Dr Manuel Hulliger	manuel.hulliger@ucalgary.ca	403 220-6216	HMRB 106	By appointment

During the first session (Sept. 6) students will be instructed on how to form small groups (of 3 or 4) for the preparation and delivery of oral presentations.

Specific and detailed instructions on format and preparation of the oral presentations and the written documents (term paper, presentation summaries) are provided in the "[Guidelines & Rubrics](#)" document, on D2L

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:**

#### **Guest lecturers**

Instructor	Email	Phone	Office	Hours
Dr. Bruce Pike	bruce.pike@ucalgary.ca	403-210-9480	HSC 2909	N/A, by appointment only
Dr. Nils Forkert	nils.forkert@ucalgary.ca	403-210-6436	HSC 2913	N/A, by appointment only
Dr. Eric Smith	eric.smith@albertahealthservices.ca	403-944-1594	HSC 2941	N/A, by appointment only

#### **In Person Delivery Details:**

The course is delivered in person. All lectures, discussion sessions, and student presentations take place in the assigned course venue (Science B, room 146).

While the venue (with capacity 64) does not permit strict 2m physical distancing, students are required to observe maximally feasible distancing when choosing their seats, by leaving at least one seat between next neighbours unoccupied. In addition, while in the classroom, students are strongly encouraged to wear face masks (except when speaking upfront during presentations). Masks should also be worn in informal conversations, whether among students or with teaching staff.

1 on 1 mentoring (in separate small meeting rooms) is also subject to observation of Covid rules (face masks, 2 m physical distancing).

Likewise, during 1 on 3-4 small group coaching (in suitable meeting rooms) for preparation of group presentations, Covid rules (face masks, 2 m physical distancing) must also be adhered to.

#### **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 421 L01-(Fall 2022)-Neuroscience: History, Ethics and Society.

All lecture PowerPoint files and extensive supplementary material (recommended reading lists, selected key literature) will be uploaded before or immediately after each lecture.

Students are strongly encouraged to pay careful attention to the course material on D2L and its continual updates.

**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):

48 units (8.0 full-course equivalents) and admission to the major in Neuroscience, Biological Sciences, Health Science or Psychology.

### 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
Student presentations-1 <sup>1</sup>	25%	Oct 13 2022		
Term paper <sup>2</sup>	45%	Dec 05 2022		
Student presentations-2 <sup>3</sup>	30%	Dec 06 2022		

<sup>1</sup> assessment in class

<sup>2</sup> assessment upon submission of paper

<sup>3</sup> assessment in class

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 %

There will not be a final exam scheduled by the Registrar's Office.

For **group work** (oral presentations), each student of a given group will get the same grade for the presentation (which will be assessed as a whole).

The **weighted sum** of individual-assignment grades (the overall percentage) will be **rounded** to integer percentage figures before the percentage to letter conversion.

**Late submission penalty:** for the term paper, a deduction will be applied in proportion to the number of hours elapsed after the submission deadline. The scale factor is 5% per 24 hr of delay.

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.

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

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

A single **optional** online **Zoom session**, for instruction (term paper) and rehearsal (second set of group presentations) will be scheduled, after consultation with the students, during week 13 (Nov. 14-18, 2022).

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

Required Textbook(s):

Stanley Finger, *Origins of Neuroscience: a history of explorations into brain function (2001)*: Oxford University Press.

Tom Beauchamp & James Childress, *Principles of Biomedical Ethics (2019, 8th edition)*: Oxford University Press ----- OR (Bioethics-ALTERNATIVE) :.

Lewis Vaughn, *Bioethics: principles, Issues, and cases (2022, 5th edition)*: Oxford University Press.

Recommended Textbook(s):

Stanley Finger, *Minds Behind the Brain: a history of the pioneers and their discoveries (2005, online text)* Oxford University Press.

Jürgen Tesak & Chris Code, *Milestones in the History of Aphasia: theories and protagonists (2008, online text)*: Psychology Press.

Note regarding Bioethics textbooks: there is a choice; it's EITHER Beauchamps & Childress OR Vaughn

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](tel: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](tel: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 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.

f. **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.

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.

## Evaluation

The evaluation of performance in the course will consist of three components:

1. **Student presentations - Neuroethics.** Working in 9 groups of 3 or 4 (individual group size will depend on final enrolment), students will give a PowerPoint presentation on Oct. 6th, 11th, or 13th on one of a set of predefined topics. The PowerPoint file must be uploaded to D2L by 6:00 pm on the evening before the talk. 25% of total.

2. **Term paper.** This will consist of an in-depth answer to a question that will be introduced on Sept. 8th (second class). It will be a maximum 6 page answer. Students will have until Monday December 5th (23:59) to submit the written answer. 45% of total.

3. **Student presentations - final.** Working in the same groups as above, students will give a PowerPoint presentation on Nov. 24th, Dec. 1st, or Dec. 6th on a topic related to the course to be chosen by the group and approved by Dr. Hulliger by Nov. 1st. 7 days in advance, each group must hand in a written summary, including a (preliminary) list of the references used, by uploading this document to the designated folder in D2L. In addition, by 6:00PM on the evening before the talk, the PowerPoint file must be uploaded to D2L. 30% of total for both components.

For further details on all three components (such as format of written submissions), consult [Guidelines /Guidelines & Rubrics](#)" on D2L.

For the complete list of course deadlines, consult '[Submission deadlines](#)' on D2L

**Course Outcomes:**

- Delineate how the brain and its major regions were discovered from ancient times.
- Review the history of the so-called Neuron Doctrine.
- Evaluate some of the major ethical and societal issues that arise from neuroscience advances.
- Describe the neural basis of sensation, perception, movement, speech and language with an historical perspective.
- Comprehend the characteristics and diagnosis of selected neurological disorders with a historical and societal perspective
- Understand the scope and limitations of modern neuroimaging techniques from a historical viewpoint
- Acquire a fundamental knowledge of the scope, promise, and challenges of mathematical modeling of neuronal systems and the entire brain.

Electronically Approved - Sep 20 2022 10:32

---

**Department Approval**