

Course ID:	Course Title:	Fall 2022
BIO/PS 270-1	Introduction to Neuroscience	Prerequisite: PS 121
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In Person	Instructor:	Dr. Alan Ho PhD, MSc, BSc	First Day of Class:	Sept. 7
Days:	Wed/Fri	Email:	aho@ambrose.edu	Last Day to Add/Drop:	Sept. 18
Time:	2:30 pm – 3:45 pm	Phone:	403-410-2100 x5911	Last Day to Withdraw:	Nov. 21
Room:	A2131	Office:	L2088	Last Day to Apply for Coursework Extension:	Nov. 28
Lab/Tutorial:	NA	Office Hours:	By Appointment Only	Last Day of Class:	Dec. 12
Final Exam:	A2131. Fri, Dec 16, 1 pm – 4 pm				

Course Description

An introduction to the study of neuroscience and neuropsychology. Attention is given to the foundational issues of studying neurochemistry and experimental techniques related to the structure and function of the nervous system and brain.

Further Course Information:

- Neuroscience is a multi-disciplinary, scientific study of the brain's structures and functions.
- For over half a century, neuroscientists have discovered and confirmed how membrane-ion interactions can provide effective information processing within each neuron and signaling across neurons.
- Neurons that constitute separate sensory and motor pathways selectively spread their activities to one another inside their specific pathways, forming intricate neural networks that integrate processed information for each sensory modality and motor subdivisions.
- Activity from different coordinated sensory neural networks inside the brain allow humans to sense, perceive, and interpret various physical stimuli from the external environment and within the human body.
- Ultimately, the activity of these coordinated neural networks lead to the generation of complex mental functions such as emotions, thinking, and decision making; functions that produce corresponding overt behaviour in a person such as body gestures, language, and spontaneous action and reaction in response to changes in the person's environment.

Expected Learning Outcomes

By the end of this course, students will be able to

1. Describe psychological methods and epistemological challenges related to the study of neuropsychology and neuroscience.
2. Describe how (1) relates to what we know about how neurochemistry and neuroanatomy relate to behaviour.
3. Present and defend their theses/arguments on subject issues in written and verbal formats through written assignments and class discussion.

Textbooks

Garrett, B. & Hough, G. (2022). Brain & Behaviour: An Introduction to Behavioral Neuroscience. (6th Ed.). Sage Publication Inc., Thousand Oaks, CA.

Course Schedule

Sep 7, 9*	Chapter 1 – What Is Behavioral Neuroscience?
Sep 14, 16*	Chapter 2 – Communication Within the Nervous System
Sep 21, 23*	Chapter 3 – The Organization and Functions of the Nervous System
Sep 28*	Chapter 4 – Methods and Ethics of Research
Sep 30	<i>National Day for Truth and Reconciliation (no classes)</i>
Oct 5	<i>Deeper Life Conference (No day classes)</i>
Oct 7	<i>Unit Exam I (Ch. 1 - 4)</i>
Oct 12, 14*	Chapter 5 – Drugs, Addiction, and Reward
Oct 19, 21*	Chapter 6 – Motivation and the Regulation of Internal States
Oct 26, 28*	Chapter 7 – The Biology of Sex and Gender
Nov 1	<i>Draft of term paper due (9:00 pm)</i>
Nov 2, 4*	Chapter 8 – Emotion and Health
Nov 7 – 12	<i>Reading Week / Fall Module week (No Regular Classes)</i>
Nov 16	<i>Unit Exam II (Ch. 5 - 8)</i>
Nov 18, 23*	Chapter 14 – Psychological Disorders
Nov 25, 30*	Chapter 9 – Hearing
Dec 4	<i>Term Paper Due (9:00 pm)</i>

Dec 16 (1 – 4 pm)

Unit Exam III (Ch. 9, 10, 14)

Requirements:**1) *Online Quizzes (2% x 10 = 20%):**

Each week after a chapter gets covered in class (*between Sep 11th – Dec 4th), a short online quiz (2% course mark) containing 10 multiple choice questions will be posted on Moodle for students to assess their understanding on materials learned during the week. *You will have 48 hours (between 6 pm Sunday – 6 pm Tuesday) to complete the quiz, the time limit for each quiz is 10 minutes. You will lose 2% mark for each missed quiz, and no make-up quiz will be offered after the allotted schedule.*

2) Unit Exams (20% x 3 = 60%):

Each of the three unit exams (as scheduled) is worth 20% of the course mark. Each exam will cover material for the identified chapters only. The exams *will contain a mixture of* up to 40 multiple-choice questions and up to 10 short answer questions (e.g., definitions, explanation of concepts/theories in writing/graphical illustration, research methodology, interpretation of empirical data, etc.) based on the textbook chapters as well as class notes. You are strongly encouraged to make use of the online study material on the textbook website:

3) Term Paper draft (2%) and final version (18%):

You may choose any topic of interest covered in our course syllabus to write a research-based critical review. You are expected to use and **make reference to your textbook and at least six (6) scholarly resources** (i.e. peer-reviewed journal articles) to provide supportive arguments for your theses in the paper. The length of the paper will be **1,400 (+/- 100) words** (double-spaced, 12-point Times-Roman font) *not including those typed on the title and reference pages*. In your research-based critical review term paper, you would pay attention on presenting and discussing the main issues of your chosen topic strategically in a logical manner. For example:

- i) What are these issues and the current understanding of researchers?
- ii) Why are these issues important in the field of neuroscience?
- iii) How might these issues affect people's well-being in general when being resolved/unresolved?
- iv) What measures have researchers done in the past (i.e., their theory-driven research strategy and methodology – are they appropriate?) that might have resulted in *encouraging progress* or *failing to meet expectations* for solving the issues?
- v) Is there any alternative theory-based interpretation for i - iv above?
- vi) What theory-based research would you suggest researchers to do next in order to make further progress? Justify your answer.

- Submit a **titled** draft/outline of your paper addressing i – iv above **before** writing your paper.
- Marks will be given based on the quality of information synthesized and presented in areas of structural organization, content, clarity and depth of thought, appropriate literature references, and **correct APA Citation and writing Style** (See APA format 7th edition: <http://www.apastyle.org/index.aspx?qa=2.156484152.242922758.1515037830-269349332.1504560227>).

- This paper can also be co-authored by **two** students working together. This co-authored project will be between **2,500 – 2,800 words** in length (excluding those in title and reference pages) while using ***your textbook and at least 10 peer-reviewed journal articles*** as references. ***You are strongly advised to peer-edit and revise the term paper before turn in for grading.*** Please note that both authors will receive the same mark (%) and grade for the completed assignment, with no exceptions.
 - The draft and finalized term paper is worth 20% of the course grade. *The electronic copy of your finalized term paper (pdf file) will be **due at 9:00 pm on Sunday Dec 4th, 2022.** **Late assignment is accepted but with penalty** (i.e., 10% of paper's mark will be deducted per day, including weekends). **Students who fail to turn in this assignment will receive an F for the course.***
 - *Your draft and finalized paper are due on the dates and times specified in the schedule. **No extension will be granted.** In the case of illness or other extenuating circumstances, exception will be made only with proof of an official medical document.*
 - **Guidance on the term paper will be provided in consultation with the professor outside of class time.**
- **Submission of Your Term Paper:**
- *Your term paper (in **pdf** file) must be submitted electronically via **Moodle** to your instructor.*
 - **All submitted term papers will be checked against plagiarism using the Turnitin software.** Please read the important information concerning **Academic Integrity** and **Plagiarism** explained in the Policies section at the end of this syllabus.

Attendance:

In the Social Science Department, we believe that learning is an active and interactive process, a joint venture between student and teacher and between student and student (i.e., learning is not just “downloading” information from teacher to student). Therefore, it is expected that professors will come to each class well-read and prepared to engage students on the topic at hand, giving students the utmost attention and respect. In turn, it is expected that students will take an active role in the learning process. This includes: (a) regular class attendance, (b) reading course material in advance of class, (c) showing up to class on time, and (d) attentively and proactively being “present” at class (i.e., not on the internet, not texting, not conversing with the person beside you). Committing to this type of “**active learning**” significantly increases the learning experience for both student and teacher, and reflects the Christian ethos of excellence and respect that lies at the heart of the Ambrose educational experience.

- *Please note that attendance at class is expected from each student. **For each unexcused absence, a student will lose 1% of course mark without exception.***
- **Exams and quizzes must be taken at the times specified. No extension will be granted.**
 - **In the case of illness or other extenuating circumstances, exception will be made only with proof of an official medical document.**

Grade Summary:

The available letters for course grades are as follows:

Percentage	Letter Grade	Grade Point	Descriptor
96–100	A+	4.0	Outstanding
91-95	A	4.0	
86-90	A-	3.7	Excellent
82-85	B+	3.3	
75-81	B	3.0	
72-74	B-	2.7	Good
68-71	C+	2.3	
63–67	C	2.0	
60–62	C-	1.7	Satisfactory
56–59	D+	1.3	Poor
50–55	D	1.0	Minimal pass
0–49	F	0.0	Fail
	P	No grade point	Pass

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Ambrose University Important Information:

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions.

Exam Scheduling

Students who find a conflict in their exam schedule must submit a *Revised Final Exam Time Application* to the Office of the Registrar by the deadline noted in the Academic Calendar. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; or 2) the scheduled final examination slot results in three consecutive examination periods. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. **Plagiarism** involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/academics/academic-calendar>

Privacy

Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and registrar. Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course. A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

Academic Success and Supports

Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that

may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

Note: Students are strongly advised to retain this syllabus for their records.

Ambrose Writing Services

Ambrose Writing services provides academic support in the four foundational literacy skills—listening, speaking, reading, and writing. It also assists students with critical thinking and the research process. Throughout the academic year, students can meet with a writing tutor for personalized support, or they can attend a variety of workshops offered by Academic Success. These services are free to students enrolled at Ambrose University. Academic Success serves all students in all disciplines and at all levels, from history to biology and from theatre to theology. To learn more, please visit <https://ambrose.edu/sas/writing-services>

Ambrose Tutoring Services

Ambrose Tutoring Services provides support in specific disciplinary knowledge, especially in high-demand areas such as chemistry, philosophy, math and statistics, and religious studies. These tutors also coach students in general study skills, including listening and note-taking. During the academic year, Ambrose Tutoring Services offers drop-in tutoring for courses with high demand; for other courses, students can book a one-to-one appointment with a tutor in their discipline. These services are free to students enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/tutoring>.

Mental Health Support

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

On Campus:

- Counselling Services: ambrose.edu/counselling
- Peer Supportive Listening: One-to-one support in Student Life office. Hours posted at ambrose.edu/wellness.
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention and Mental Health First Aid. See <https://ambrose.edu/student-life/crisissupport> for a list of staff members.

Off Campus:

- Distress Centre - 403-266-4357
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

All staff, faculty, and Residence student leaders have received *Sexual Violence Response to Disclosure* training. We will support you and help you find the resources you need. There is a website with on and off campus supports – ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:

- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888