

Course ID:	Course Title:	Winter, 2024
BIO 330 -1	Brain & Behaviour	Prerequisite: BIO/PS 270
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In-class	Instructor:	Alan Ho. PhD, MSc, BSc	First Day of Classes:	January 8, 2024
Days:	Tue / Thurs	Email:	aho@ambrose.edu	Last Day to Add/Drop:	January 21, 2024
Time:	4:00 – 5:15 pm	Phone:	402-410-2000 ext.5911	Last Day to Withdraw:	March 28, 2024
Room:	RE 112	Office:	L2088	Last Day to Apply for Coursework Extension:	April 2, 2024
Lab/Tutorial:	NA	Office Hours:	By Appointment	Last Day of Classes:	April 12, 2024
Final Exam:	April 20, 1-4pm Rm: RE 112				

Important Dates and Information

For a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>.

Course Description

An introduction to the neural basis of learning, memory, language, thought, motivation, emotion and behaviour.

Further Course Information:

Brain and Behaviour is an intermediate-level course that reviews how human behaviour could possibly be explained by brain functions. The lectures and course materials will focus on some important brain structures and areas that serve various sensory and motor functions which are crucial for a person's survival. How the neural functions get integrated to produce complex observable activities known as behaviour will be addressed. Mechanisms of brain functions may also be discussed at the neuronal level involving physiological and biochemical processes.

Expected Learning Outcomes

It is the aim of the course that students acquire the following knowledge using Bloom's Taxonomy:

1. Recall (Knowledge): Identify fundamental terminologies and concepts in behavioral neuroscience and neuropsychology through the studies of sensory information processing.
2. Understand (Comprehension): Explain the intricate correlation between key brain structures and functions to the activities of the sensory-motor systems.
3. Apply (Application): Implement theories and understandings of bio-psychological and sensory-motor influences on case studies of abnormal and normal behavior.
4. Analyze (Analysis): Examine the complex relationships and interactions between neural function, environment, genetics, sensory perception, and behavior.
5. Evaluate (Evaluation): Critique the strengths and weaknesses of neurobiological models of behavior, including the impact of sensory-motor interactions.
6. Create (Creation): Construct comprehensive essays on how brain structure, function, sensory perception, and motor systems interactions influence behavior.

Textbook:

- Augustine, G., et al. editors (2023) *Neuroscience* (7th ed.)*. New York, NY: Oxford University Press.
 - *eText on the Oxford Insight Learning Platform.

Course Schedule

Jan 9	Learning Brain & Behaviour using the Oxford Insight Platform
Jan 11	Chapter 1 – Structure and Function: Neuroanatomy and Research Methods (review)
Jan 11	Concept A.1 - The Regional Organization of the CNS
Jan 16, 18, 23	Chapter 9 – Vision
Jan 25	<i>Undergrad Program Day (no daytime classes)</i>
Jan 30	<i>Unit Exam I (Concept A.1, Ch. 1, 9). 20%</i>
Feb 1, 6	Chapter 10 – Hearing
Feb 8, 13	Chapter 11 – The Vestibular System
Feb 15	Chapter 12 – Touch and Proprioception
Feb 20-24	<i>Winter Modules / Mid-Semester Break</i>
Feb 27, 29	Chapter 12 – Touch and Proprioception
Mar 5, 7	Chapter 13 – Pain and Temperature
Mar 12	<i>Unit Exam II (Ch. 10 -- 13). 20%</i>
Mar 14, 19	Chapter 20 – Eye Movements and Sensorimotor Integration
Mar 21, 28	Chapter 16 – Lower Motor Neuron Circuits and Motor Control

Mar 26

Ambrose Research Conference (No daytime classes)

Apr 2, 4

Chapter 17 – Upper Motor Neuron Control of the Brainstem and Spinal Cord

Apr 3

Term Paper Due. 20%

Apr 9

Chapter 18 – Modulation of Movement by the Basal Ganglion

Apr 11

Chapter 19 – Modulation of Movement by the Cerebellum

Apr 20 (Rm RE 112, 1 - 4pm)

Unit Exam III (Ch. 16 – 20). 20%

Requirements:

It is expected that each student will have read the assigned reading and will take part in class discussion. Evaluation will be based on **ten weekly reading assignments (10%), five quizzes (on weekends, 10%), three unit exams (60%) and a term paper (20%).**

1. **Weekly reading assignments (1% x 10 = 10%)**

2. **Online Quizzes (2% x 5 = 10%):**

On **weekends** between **Jan 23rd – Apr 11th**, (**see highlighted dates in course schedule above**), a short online quiz containing **10 multiple choice questions** will be posted on the **Oxford Insight Learning Platform** for students to assess their understanding on materials covered between quizzes. **You will be notified 36 hours ahead and have a 2-hour window to access each quiz once it is uploaded, time limit for completing each quiz is 10 minutes.**

3. **Unit Exams:** Unit exams will be worth **20% each (20% x 3 = 60%)** for course mark. Exams will cover materials in the identified chapters only unless specified. Each exam may contain *a mixture of* multiple-choice (*up to* 40), matching (10), True/False (10), short answer (6), and short essay (2) questions based on textbook materials and class notes. All unit exams are held in person and last for 80 minutes. You are strongly encouraged to make use of the online study materials provided at the *Oxford Insight learning platform*.

4. **Term Paper:** You may choose to review any topic of interest about Brain and Behaviour covered by the syllabus. *In your paper, you are must include your textbook and at least ten (10) other scholarly resources (i.e. peer-reviewed journal articles) as citation references that are directly related to your article. The maximum length of the paper will be 1,800 words or 7 pages max (double-spaced, 12-point Times-Roman font) not including title page and references. Marks will be given for structural organization, content, clarity and depth of thought, appropriate literature references, and correct APA (7th Ed.) citation and writing Style.*

(please see https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/index.html).

❖ **The term paper is worth 20% of the final grade.** The electronic copy of your term paper will be **due at the end on Sunday, Apr 3rd, 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 not completing the course.**

❖ **Guidance on the term paper will be provided in consultation with the professor outside of class time.**

Submission of Assignments:

➤ Your assignments must be submitted electronically (i.e., via **Turnitin on Moodle**) to your instructor.

➤ **All submitted assignments will be checked against plagiarism using the Turnitin software.** Please read the important information concerning plagiarism and Academic Integrity explained in the Policies section at the end of this syllabus.

Attendance:

In the Behavioural 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 surfing 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 teacher and student, 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. **1% of your overall term marks may be deducted for each unexcused absence, and you are also responsible for learning the material that you have missed.**

Exams must be taken at the times specified. The **written assignment** is due on the date specified above. *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	Excellent
91-95	A	4.0	
86-90	A-	3.7	
81-85	B+	3.3	Good
75-80	B	3.0	
70-74	B-	2.7	
67-69	C+	2.3	Satisfactory
63–66	C	2.0	
60–62	C-	1.7	
56–59	D+	1.3	Poor
50–55	D	1.0	Minimal pass
0–49	F	0.0	Fail
>50	P	No Grade Points	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.

Academic Writing, Research, And Communication Tutoring

To demonstrate your knowledge of the course content, you will need to communicate clearly and persuasively.

- For help with your presentations and papers, I would encourage you to contact the Ambrose Student Academic Success Team (<https://www.ambrose.edu/student-academic-success/student-academic-success-team>) to utilize their services (<https://www.ambrose.edu/student-academic-success>) where tutors can help you with everything from brainstorming ideas to polishing your grammar. *You can book appointments in advance or drop in during regular hours.* Also, watch for workshops on writing, reading, and research throughout the year. This service is **FREE** to Ambrose students, so I would encourage you to take advantage of it!

Social Sciences Program Outcomes: (1) have a sound understanding of individual and group human behaviour, which will assist students in dealing with people in many helping professions and in their personal lives; (2) be able to integrate the knowledge of the psychological processes and social processes that bear upon human behaviour; (3) have an understanding of research methodology in the behavioural sciences, including constructing and implementing quantitative and qualitative research designs, analyzing and critiquing empirical results, and presenting clear outcomes and recommendations to appropriate audiences; (4) have a facility with current technology in the field of behavioural science (e.g., electronic databases, computer analysis software such as SPSS); (5) perceive human needs with empathy and develop socially responsible attitudes toward social problems and, in particular, special needs populations in society; (6) be prepared to engage ethically with individuals from diverse backgrounds (i.e., racial, ethnic, religious, gender and sexual orientation) in a manner that maintains the dignity and respect for all people; (7) develop a Christian view of sociological and psychological processes in conjunction with scientific study; (8) be prepared to work with integrity and confidence in a variety of human service fields or continue on to graduate work or after-degree programs.

Psych/Neuroscience Web (APA style, psychology careers, journals, etc.):

- *APA Style Writing 7th Edition Handouts and Guides:*
 - ✓ <https://apastyle.apa.org/instructional-aids/handouts-guides>
 - ✓ https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/index.html
- *Ambrose Journal Databases By Subject:* <https://ambrose.edu/library/journal-databases-by-subject>
- *American Psychological Association:* <http://www.apa.org/>
- *Canadian Psychological Association:* <http://www.cpa.ca/>
<http://www.cpa.ca/students/>
- *Society for Neuroscience* <http://www.sfn.org/>
- *Mental Health Net* <http://mentalhelp.net>
- *3-D Brain Anatomy* <http://www.neuroanatomy.ca/3Dphotogrammetry.html>
- *BrainFacts.org* <http://www.brainfacts.org/>
- *Science Daily* <http://www.sciencedaily.com/>

Ambrose University Academic Policies:

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. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

Registration

During the **Registration Revision Period** students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline**; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student to use a

laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. 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.

Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

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 college. 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.

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