

Course ID:	Course Title:	Winter 2023
BIO 352-1	Introduction to Cognitive Neuroscience	Prerequisite: PS 121, PS 270
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In Person	Instructor:	Dr. Alan Ho PhD, MSc, BSc	First Day of Class:	Jan. 9
Days:	Wed / Fri	Email:	aho@ambrose.edu	Last Day to Add/Drop:	Jan. 22
Time:	2:30 – 3:45 pm	Phone:	403-410-2100 x5911	Last Day to Withdraw:	March 31
Room:	A2212	Office:	L2088	Last Day to Apply for Coursework Extension:	April 3
Lab/Tutorial:	NA	Office Hours:	By Appointment Only	Last Day of Class:	April 14
Final Unit Exam:	Fri, Apr 21, 1 – 2:30 pm; A2212				

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/academics/academic-calendar>.

Course Description

An examination of the neural bases of higher human cognitive or mental function. Topics will include the strengths and weaknesses of current techniques for investigating mind-brain relationships and analyzing syndromes due to neurological deficits and diseases. Such techniques may include neurophysiological recording in animals, human EEG and MEG recording, structural and functional non-invasive brain imaging, and brain stimulation methods.

Expected Learning Outcomes

It is the aim of the course that students acquire the following knowledge and skills:

1. Think and ask questions like cognitive neuroscientists.
2. Demonstrate theoretical understanding and purpose on the application of various research techniques, use of some common research paradigms, and how they can be used in complementary manners.

3. Critically review research methodologies and soundly interpret data reported in published journal articles relating brain and mental activities.
4. Describe the general functional organization of brain structures or neural correlate for core cognitive processes such as sensory perception, object recognition, attention, memory, emotion, and language.
5. Discuss how neural activities at different levels and different functional areas in the brain may interact and possibly integrated, leading to purposeful actions and/or coherent responses directed to selected external events as needed.

Textbooks (Required)

Eagleman, D. and Downar, J. (2016). *Brain and Behavior: A Cognitive Neuroscience Perspective*. Oxford University Press.

Course Schedule

Jan 11, 13	Chapter 1 –Introduction
Jan 18, 20	Chapter 4 – Neuroplasticity
Jan 25, 27	Chapter 5 – Vision
<i>Feb 1</i>	<i>Unit Exam I - (Ch. 1, 4, 5; 25%)</i>
Feb 3, 8 , 10	Chapter 6 – Other Senses
Feb 10, 15, 17	Chapter 8 – Attention and Consciousness
<i>Feb 21-25</i>	<i>Winter Modules / Mid-Semester Break</i>
Feb 24	Outline of Term Paper Due (5%)
Mar 1, 3,	Chapter 9 – Memory
<i>Mar 8</i>	<i>Unit Exam II - (Ch. 6, 8, 9; 25%)</i>
Mar 10, 15	Chapter 10 – Sleep
Mar 17, 22	Chapter 11 – Language and Lateralization
Mar 24, 31	Chapter 12 – Decision Making
<i>Mar 29</i>	<i>Ambrose Research Conference (No daytime classes)</i>
Apr 3	Term Paper Due (20%)
Apr 5, 7 , 12	Chapter 15 – Social Cognition
Apr 14	Review
<i>Apr 21 (Fri)</i>	<i>Unit Exam III - (Ch. 10 – 12, 15; 25%)</i>

Requirements:

- I. **There are three unit exams each worth 25% (3 x 25% = 75%) of the course mark.** Each exam will cover material for the identified chapters only. The exams consist of multiple-choice questions, fill-in-the-blanks, definitions & terms, short answer and/or short essay questions based on the textbook chapters as well as class notes. The exact number of what type of questions given in each unit exam will be announced on Moodle at least 48 hours prior to the exam.
- II. **Research term paper (20%):**
 1. Each student will write **a 1,600-word research proposal** (*not counting words from the title page and the reference list*) based on a topic of their own choice. The purpose for this written assignment is to encourage students to carry out a supervised individual research study to explore at a greater depth on selected issues of a particular known human behaviour using the cognitive neuroscientific approach.
 2. You must submit **an outline of your research term paper** (**less than 200 words**, using bullet points to list/convey your ideas in an organized manner) to your professor via Moodle prior to the end of **Friday, Feb 24th** for constructive feedbacks and approval. **This outline carries 5% of the course mark.**
 3. You are expected to use and make reference to **your textbook** plus at least **six (6) other scholarly resources** (i.e. **peer-reviewed journal articles only**; you may cite and make reference to articles published online, in magazines and newspapers but they **do not count as peer-reviewed journal articles**) that are relevant to your paper topic. You must properly cite supportive empirical evidences obtained from these reference articles to back up the arguments and claims that you make while synthesizing the theses of your paper.
 4. Two students may also form **a team of two** to work on this term paper. Students who work as a team will receive an identical grade for this assignment. **The word count of the paper will increase to 2,400 – 2,800 words, citing at least eight (8) journal articles.**
 5. Marks will be given for *structural organization, context, clarity and depth of thought, appropriate text references, and adherence to the APA Writing Style* (downloadable files on APA 7th ed. writing style are posted on Moodle).
 6. **This written assignment is worth 25% of the course mark and is due by the end on Monday Apr 3rd.** Late assignment is accepted but with penalty (i.e., 10% of paper's mark will be deducted per day, including weekends).
 7. **Guidance on writing this term paper may be obtained from the professor outside of class time.**

➤ **Students who fail to turn in this assignment will receive an F for the course.**

Submission of Assignments:

- Your assignments must be submitted electronically (i.e., **via 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 Social Sciences Program, 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 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. You are responsible for learning the material that you have missed due to unexcused absence.**
- **Exams must be taken at the times specified. The written assignment/report is due on the date 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.**
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Grade Summary:

Percentage	Letter Grade	Grade Point	Descriptor
96–100	A+	4.0	Excellent
91-95	A	4.0	
86-90	A-	3.7	Good
81-85	B+	3.3	
75-80	B	3.0	
70-74	B-	2.7	Satisfactory
67-69	C+	2.3	
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.

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Psych Web (APA style, psychology careers, journals):

- *Ambrose library Journal Databases A-Z:* <https://ambrose.edu/library/journal-databases-and-resources>
- American Psychological Association <http://www.apa.org/>
- Canadian Psychological Association <http://www.cpa.ca/>
<http://www.cpa.ca/students/>
- APA Writing Style/Format/**Writing Support***
<http://owl.english.purdue.edu/owl/resource/560/01/>;
<https://ucalgary.ca/live-uc-ucalgary-site/sites/default/files/teams/9/apa-6th-ed.-documenting-sources.pdf>;
https://ucalgary.ca/student-services/student-success/writing-support*

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