



## BIO 330

# Brain & Behaviour

**Semester:** Winter, 2015

**Days:** Wed/Fri 09:45 – 11:00

**Room:** A2212

**Number of credits:** 3

**Instructor:** Dr. Alan Ho, Ph.D.

**Email:** aho@ambrose.edu

**Phone:** 403-410-2000 ext. 5911

**Office:** L2088

**Office hours:** By appointment

**Prerequisite:**

3 credits in Psychology at the 200 level

### 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 will 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 skills:

1. An understanding of neuronal structures and functions and roles of neurotransmitters in neuronal communication;
2. Important human brain structures and areas and their general functions;
3. How activities of different brain areas interact and get integrated to produce complex external behaviour;
4. How behaviour could be affected by hormones and

### Important Dates:

First day of classes: January 7, 2015

Registration revision period: January 18, 2015

Last day to request revised examination: March 2, 2015

Last day to withdraw from course: March 20, 2015

Last day to apply for time extension for coursework: March 30, 2015

Last day of classes: April 10, 2015

**Final Exam: Mon April 13, 2015**

**Time: 9:00 AM – 12:00 PM**

**Room: A1085 (Airhart)**

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psychoactive drugs;

5. Mechanisms involved in some neuropsychological diseases.

## **Outline:**

Jan 7, 9	Chapter 1 –What Are the Origins of Brain and Behavior?
Jan 14, 16	Chapter 2 – How Does the Nervous System Function?
Jan 21, 23	Chapter 3 – What Are the Units of Nervous System Function?
Jan 28, 30	Chapter 4 – How Do Neurons Use Electrical Signals to Transmit Information?
Feb 4, 6	Chapter 5 – How Do Neurons Use Electrochemical Signals to Communicate and Adapt?
<b>Feb 11</b>	<b>Unit Exam #1 (Chapters 1 - 5)</b>
Feb 13, 25	Chapter 6 – How Do Drugs and Hormones Influence the Brain and Behaviour?
<b>Feb 17-21</b>	<b><i>Winter Modules / Mid-Semester Break</i></b>
Feb 27, Mar 4	Chapter 8 – How Does the Nervous System Develop and Adapt?
Mar 6, 11	Chapter 9 – How Do We Sense, Perceive, and See the World?
Mar 13, 18	Chapter 10 – How Do We Hear, Speak, and Make Music?
<b>Mar 20</b>	<b>Unit Exam #2 (Chapters 6, 8 - 10)</b>
Mar 25, 27	Chapter 11 – How Does the Nervous System Respond to Stimulation and Produce Movement?
Apr 1, 3	Chapter 14 – How Do We Learn and Remember?
Apr 8, 10	Chapter 15 – How Does the Brain Think?
<b>Apr 13</b>	<b>Unit Exam #3 (Chapters 11, 14 &amp; 15) Airhart 9 am -12:00 pm</b>

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## Requirements:

- **Unit Exams:** The first, second, and third unit exams will be worth **25%** each (75% in total) for course mark. Exams will cover material for the identified chapters only. Each exam may contain multiple-choice, matching, short answer and essay questions based on textbook materials and class notes. You are strongly encouraged to make use of the online study material on the textbook website: [http://bcs.worthpublishers.com/kolbintro4e/#t\\_824272](http://bcs.worthpublishers.com/kolbintro4e/#t_824272).
- **Term Paper:** You may choose to review any topic of interest about Brain and Behaviour. In your paper, you are expected to use and make reference to **your textbook** and at least **ten (10) other scholarly resources** (i.e. journal articles) that are directly related to your article. The length of the paper will be **8 pages max** (double-spaced, 12-point Times-Roman font) **not including references**. You may choose to form *a team of two* to work on this term paper but the body of the paper will be **12 pages max** long instead. Students who work as a team will receive an identical grade on the assignment. Marks will be given for structural organization, context, clarity and depth of thought, appropriate literature references, and correct **APA Citation and writing Style** (please see <http://www.library.cornell.edu/resrch/citmanage/apa>). This assignment is worth **25%** of the course mark and is **due Apr 3<sup>rd</sup> before class**. *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.**

## Submission of Assignments:

Your assignments must be submitted electronically (i.e., via Moodle and/or email) 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 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. For each **unexcused absence**, a student will lose **2% of course mark** without exception.

## Evaluation:

Please refer to the Requirements section above.

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## Grade Summary:

The available letters for course grades are as follows:

Percentage:	Letter Grade:	Grade Point Weight:	Description
96-100	A+	4.0	
91-95	A	4.0	Excellent
86-90	A-	3.7	
82-85	B+	3.3	
75-81	B	3.0	Good
72-74	B-	2.7	
68-71	C+	2.3	
63-67	C	2.0	Satisfactory
60-62	C-	1.7	
56-59	D+	1.3	
50-55	D	1.0	Minimal Pass
0-49	F	N/A	Failure

Because of the nature of the Alpha 4.00 system, there can be no uniform College-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 no longer mailed out.*

## Textbooks:

Kolb, B. & Whishaw, I. Q. (2014). *An Introduction To Brain And Behavior* (4th Ed.). New York: Worth Publishers. [http://bcs.worthpublishers.com/kolbintro4e/#t\\_824272](http://bcs.worthpublishers.com/kolbintro4e/#t_824272)

## Notable Websites:

- **APA Writing Style** (please see <https://owl.english.purdue.edu/owl/resource/560/01/>).  
Example Paper: <http://www.apastyle.org/manual/related/sample-experiment-paper-1.pdf>
- **3-D Brain Anatomy** (PBS) <http://www.pbs.org/wnet/brain/3d/index.html>
- **The Harvard Mahoney Neuroscience Institute Letter (On The Brain)**  
[http://www.hms.harvard.edu/hmni/On\\_The\\_Brain/](http://www.hms.harvard.edu/hmni/On_The_Brain/)
- **Society for Neuroscience** <http://www.sfn.org/>
- **Science Daily** <http://www.sciencedaily.com/>
- **BrainFacts.org** <http://www.brainfacts.org/>
- **Mental Health Net** <http://mentalhelp.net>
- **American Psychological Association** <http://www.apa.org>
- **Canadian Psychological Association** <http://www.cpa.ca>

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## Policies:

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, it is highly recommended that they forward all messages from the Ambrose account to the other account.

During the **Registration Revision Period** students may to 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. These courses will not appear on the student's transcript. 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 by the **Withdrawal Deadline**, please consult the List of Important Dates. Withdrawal from courses after the Registration Revision period will not be eligible for tuition refund. A grade of "W" will appear on the student's 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.

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) 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 engage in electronically-enabled activities unrelated to the class during a class session. Please turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Please 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. 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, that is information about an individual that may be used to identify that individual, may be collected as a requirement 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](mailto: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 Office of the Registrar in writing within 30 days of

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receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal to review final grades. 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 College 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 give credit 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.

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

**Other**

*Any added features in the syllabus are optional. You may or may not wish to include elements such as a bibliography, reading list, schedule of lectures/topics, or reporting form.*