

PSYC 211: Introduction to Behavioural Neuroscience

Fall 2019 Mon/Wed 4:35-5:55pm, Leacock 132

Wed 4th September – Tues 3rd December

- Instructor:** Jonathan Britt
- Teaching assts:** Christopher Lafferty, Matteo Bernabo, Thalia Garvock-de Montbrun, Angela Yang, Laila Chaudhry
- Class email:** TApsych211@gmail.com
- TA office hours:** Anytime, just write to TApsych211@gmail.com
- Prof office hours:** Thursdays from 10-11am (except Sept 5th & 12th) in Stewart Bio Rm N8/9
- Prof email:** jonathan.britt@mcgill.ca
- Course Description:** This course provides an introduction to the study of the brain in relation to behaviour. It brings together evidence from a variety of disciplines, techniques and species to understand problems linking brain function to a scientific understanding of behaviour. The course will emphasize basic neural structure and function at the cellular and systems level. Much of the evidence will be drawn from the experimental literature on research with animals.
- Prerequisites:** These prerequisites are recommended but not critical: Introductory Psyc (PSYC 100) and Bio (BIOL 111, 112, 115) or equivalents
- Required text:** Carlson, N. R., (2014) Foundations of Behavioral Neuroscience. 9th Edition, Pearson Education, Inc: USA. The cost ranges from \$125 (online access) to \$300 (hardcover): <http://www.mypearsonstore.ca/bookstore/foundations-of-behavioral-neuroscience-0205940242>. The textbook is also available at the McGill bookstore (to buy) and at the McLennan library (on reserve). The class lectures will closely follow the textbook. The professor will go through each chapter in the textbook in order and cover about 90% of the material. Note that exam questions will come exclusively from the lecture material.
- Instructional Method:** The professor will lecture twice a week and hold office hours once a week. Lectures will be video recorded and the PowerPoint files posted on MyCourses. Teaching Assistants will give formal review sessions almost weekly throughout the semester (see page 4). They will also answer any questions emailed to TApsych211@gmail.com and arrange office hours on demand.
- Evaluation Method:** 3 multiple choice exams (2 midterms and 1 final)
- Disclaimer:** All aspects of this course are subject to change without prior notice. The provisions of this course outline do not constitute a contract, expressed or implied between any student and the instructor.

Course content: The course will cover the following schedule.

Lecture #	Date	Chapter	Topic
1	9/4/2019	Chapter 1a	Introduction, Consciousness
2	9/9/2019	Chapter 1b & 2a	Evolution & Cell Biology
3	9/11/2019	Chapter 2b	Action Potential
4	9/16/2019	Chapter 2c	Neurotransmitter Receptors
5	9/18/2019	Chapter 3a	Brain Anatomy I
6	9/23/2019	Chapter 3b	Brain Anatomy II
7	9/25/2019	Chapter 4	Drugs & Neurotransmitters
8	9/30/2019	Chapter 5	Neuroscience Methods
9	10/2/2019	Chapter 6a	Vision I
exam	10/7/2019	Midterm 1	
10	10/9/2019	Chapter 6b	Vision II
	10/14/2019	Thanksgiving	No class
11	10/16/2019	Chapter 7	Hearing and Other Senses
12	10/21/2019	Chapter 8	Sleep
13	10/23/2019	Chapter 9a	Reproductive behaviour I
14	10/28/2019	Chapter 9b	Reproductive behaviour II
15	10/30/2019	Chapter 10	Emotions
16	11/4/2019	Chapter 11	Hunger & Thirst
17	11/6/2019	Chapter 12a	Cellular Learning & Memory
exam	11/11/2019	Midterm 2	
18	11/13/2019	Chapter 12b	Classical & Operant Conditioning
19	11/18/2019	Chapter 12c	Declarative Learning & Memory
20	11/20/2019	Chapter 13	Language
21	11/25/2019	Chapter 14a	Neurological Disorders
22	11/27/2019	Chapter 14b	Neurodegenerative Disorders
23	12/2/2019	Chapter 15	Psychological Disorders I
24	12/3/2019	Chapter 16	Psychological Disorders II

Learning Outcomes: Following this course, you should be able to

- 1) Define basic terms and functions of the nervous system
- 2) Demonstrate knowledge of different biological and neuroscientific research approaches
- 3) Explain the significance of using animals in research
- 4) Explain the main research findings, controversies and theories in behavioral neuroscience
- 5) Demonstrate an understanding of neurological and psychological disorders

Special Accommodations & Disability Access:

- Please visit mcgill.ca/osd to request special testing accommodations.
- Please visit mcgill.ca/wellness-hub if you are concerned about your mental health.
- According to McGill policy, instructors are not permitted to make special arrangements for final exams (mcgill.ca/students/exams/regulations).

Academic integrity:

McGill University values academic integrity. Students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more info).

Copyright of course materials:

- © Instructor generated course materials (e.g., PowerPoint files, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.
- All media recorded by the Lecture Recording System are covered by copyright and cannot be reproduced without specific written authorization of the instructor.
- Written permission of the instructor is also required to use or distribute the material in electronic format, including reproduction of it or reference to it on a website.

EVALUATION METHOD

The exams in this course will consist entirely of multiple choice questions. Sample exam questions will be posted on PeerWise and tagged “TA Example Question”.

- There will be two non-cumulative, in-class MIDTERM exams:
 - Midterm 1: Monday 7th October [4:35-5:55PM]**
Midterm exam 1 will cover lectures 1-9 (Textbook chapters 1-6a)
 - Midterm 2: Monday 11th November [4:35-5:55PM]**
Midterm exam 2 will cover lectures 10-17 (Textbook chapters 6b-12a)
- There will be one **Cumulative Final Exam** administered by the university. This final exam will cover ALL lectures, but post-midterm 2 material will be emphasized.

GRADING: Class grades are calculated from your exam grades as described below. There are also two extra credit opportunities, which are just added to your final grade.

- If your final exam score is your highest exam score in the class, both of your midterm marks will be dropped. Your Exam Grade will simply be your final exam grade.
- If your final exam mark is your second best exam mark in the class (i.e., you did better on one of the midterm exams), then your Exam Grade will be calculated accordingly:
 - Final exam – 60%
 - Midterm with the higher score – 40%
- If your final exam mark is your lowest exam mark in the class (i.e., you got a better score on both midterm exams), then your Exam Grade will be calculated accordingly:
 - Final exam – 40%
 - Midterm with the higher score – 40%
 - Midterm with the lower score – 20%

Please note that you are free to miss either or both of the midterm exams, but taking them can only help your class grade. Note there are **NO MAKEUP MIDTERM OPPORTUNITIES***.

* The only exception to this policy is if you miss both midterm exams for good reason and are opposed to a 100% final exam. In such cases the student must write to the professor to provide explanation/documentation and opt out of the 100% final exam option. You will be given a makeup midterm exam covering lectures 1-17, which will be treated like a normal midterm exam for grading purposes.

- There will be a **Supplemental Exam** for those approved to take it, which is controlled by the university (typically available to students who earn a D or F grade). Your supplemental exam mark will go on your transcript along with your original class grade.
- Only final class grades will be rounded (e.g. 84.4 = 84%; 84.5 = 85%).

Post-Exam Review Service: Exam materials must be turned in at the end of each test. You will not get back or be able to view your specific exam booklet after the test. However, you will be able to see your specific answer sheet and an unmarked exam booklet if you attend one of the post-exam review sessions, which are held at various times the week after exam grades are posted. Exam viewing opportunities will very limited outside of these sessions, but feel free to try and arrange sometime with the TAs. You are not permitted to take any notes or photos during exam viewing sessions. These sessions are simply an opportunity for you to make sure your answer form was graded correctly and to see what questions you got wrong.

TEACHING ASSISTANTS

This course has several teaching assistants (TAs) with different areas of expertise and scheduling availabilities. To help them help you, please send all questions pertaining to all aspects of this course to TPsych211@gmail.com. Do not email the TAs' personal accounts. Also please refrain from emailing the professor's personal account unless it concerns a personal (health) issue or a problem with the TAs.

- Small questions, big questions, administrative questions? Write to TPsych211@gmail.com
- Feel confused and lost in regards to the course material? Write to TPsych211@gmail.com

MyCourses Discussion Page: This page may not be actively monitored by the TAs. It is simply a place for students to pose questions to each other and to discuss course material. All posts on this discussion page must be respectful and in line with McGill's Code of Student Conduct.

TA-Led Review Conferences are an opportunity for you to ask questions about the material that was covered in the preceding lectures.

Date	Day	Topic	Time & Location
Sept 19	Thursday	Neurons & Receptors	
Sept 26	Thursday	Anatomy & Signaling	To be
Oct 3	Thursday	Pre-midterm 1	determined...
Oct 24	Thursday	Sensory systems & Sleep	
Oct 31	Thursday	Sex & Emotions	
Nov 7	Thursday	Pre-midterm 2	
Nov 21	Thursday	Memory & Language	
Nov 28	Thursday	Brain disorders	
Dec 5	Thursday	Pre-final exam	

EXTRA CREDIT OPPORTUNITIES

1. Psychology Department Subject Pool Program:

You can earn **2% Extra Credit** (added to your final grade) if you participate in the psychology department subject pool program. Participating is entirely voluntary. The Participant Pool Teaching Assistant will present the details about receiving this extra credit in class. They will inform the professor at the end of the semester who participated and for how much credit (2% maximum). All questions/concerns about this credit should be directed to the subject pool TA: extracreditquestions.psychology@mcgill.ca

2. PeerWise Assignment

You can earn **up to 2% Extra Credit** (added to your final grade) if you complete this assignment AND your contributions are deemed valuable by the TAs.

PeerWise is a website that allows students to create, share, and evaluate each other's' multiple choice test questions: <https://peerwise.cs.auckland.ac.nz/>

Course ID: 19905 (McGill University; 2019 PSYC 211)

User ID: Your McGill student ID

Assignment: Post up to 3-6 questions (no more than 6!) over the course of the term and answer & rate at least 60 of the questions posted by other students.

- All PeerWise activity is anonymous to other students, but not to the professor or TAs.

Deadlines: Be sure to post your

- First 1 or 2 questions by midnight Thursday, the end of **October 3rd**
- Second 1 or 2 questions by midnight Thursday, the end of **November 7th**
- Third 1 or 2 questions by midnight Thursday, the end of **December 5th**

Also answer & rate at least 20 questions on the website prior to each exam (60 in total).

Evaluation: The PeerWise assignment is worth up to 2% extra credit. The amount will be based on the quality of your contributions as assessed by the TAs, who will evaluate your questions as well as your efforts answering, rating, and critiquing other students' questions. The TAs will read the questions and comments you post on PeerWise and take into consideration your PeerWise metrics (of which there are many) in the determination of your final score. PeerWise metrics include, but are not limited to:

- The Answer score, which basically reflects how many questions you answered correctly over the term.
- The Reputation score, which basically reflects the earliness in which you post good questions and correctly answer/rate other people's questions. Your reputation score only increases when other students do things (i.e., when they rate your questions highly or when they provide the same answer/rating that you previously provided to other students' questions). In the short term, answering questions for several hours will not change your reputation score, however it will rise later if students come after you and choose the same answers and ratings that you selected.

The majority of students who put in a good faith effort will earn at least 1 extra credit point for this assignment. The full 2 points will be reserved for students who write thought provoking, exam worth questions and/or put significant effort into answering, rating, and critiquing other students' questions.

Details:

- You are encouraged to post your question prior to the deadline in order to get feedback from other students. You can always edit or delete/repost your question, as long as you do so prior to the deadline. Note that questions posted or edits made after the deadline may not be evaluated by the TAs, since all questions are downloaded at each due date. You will lose potential points if you post (and leave up) more than two questions during each third of the course.

Writing good multiple choice questions is hard.

- When posting a question, make sure you include an explanation. Why is the correct answer the best choice and what is wrong with the alternatives? If your question requires no explanation, it may not be the best question.
- When rating other students' questions, please follow the following guide.
Question rating score:
 - 0 – The question **makes no sense** and no good explanation is provided for answer choices.
 - 1 – **Vague, confusing, too long, too wordy, or not related** to the course material.
 - 2 – **Straightforward memorization** question that is clear and to the point.
 - 3 – **Complex memorization** question that is clear and to the point. This question requires more than the recall of one simple fact.
 - 4 – Higher level question (goes beyond simple memorization) that is clear and to the point. It deals with the **understanding of concepts or ideas**, application, analysis, interpretation, and/or evaluation skills.
 - 5 – Outstanding **question that got me thinking about the material in a new way**. I now better appreciate the implications and complexity of the subject matter.

Tips for writing good multiple choice questions:

- The question should either be a question (?) or an incomplete statement (...), and upon reading it students should be able to anticipate the answer choices.
 - Avoid one word questions, like “Question 5: Schizophrenia...”. With a one word question the reader has no idea what to expect in the answer choices (and you probably are unsure about what exactly you are asking).
 - Avoid negative choice questions like “Which of the following is NOT true about schizophrenia?” These can be problematic for many reasons.
- Be clear and concise. As a rule, the fewer words the better, especially for the answer choices. Do not use ambiguous or difficult language. Do not include irrelevant information.
- Always have 4 or 5 answer choices. Do not use “All of the above” or “None of the above”.
- There should be one and only one correct answer (for example, do not have an answer choice that says “A and B are both correct”).
- Try to randomize your answer choices (maybe roll a die when choosing if the correct answer will be option A, B, C, D, or E).
- Do not give grammatical cues that point to the correct answer (e.g., A vs An, or plural vs singular). The correct answer should not be more or less detailed than the alternatives. All answer choices should be similar in length. Avoid using words like always, only, and never in the answer choices, since those words are rarely found in correct answers.
- Incorrect answer choices can include true statements that don't answer the question. Students are expected to choose the best answer.
- For some questions it may be helpful to include, “According to Prof. Britt...” or “Based on what was presented in class...”
- For more question writing advice, please consult the following:
 - <https://cft.vanderbilt.edu/guides-sub-pages/writing-good-multiple-choice-test-questions/>
 - <https://testing.byu.edu/handbooks/betteritems.pdf>