Instructor
Dr. Henry Szechtman

Lectures
Term 1, September 4 - December 4, 2018
Tuesdays 13:30-14:20, Thursdays 12:30-13:20 in HSC 1A1
Tutorials: As assigned (1 per week)

Office Hours:
By appointment

LearnLink Folder
HTHSCI 1G03 Psychobiology

Course Description
The course aims to familiarize you with the concepts and methods of biological psychology (Psychobiology). Psychobiology (also known as behavioral neuroscience or physiological psychology or biological psychology) is a basic science discipline that investigates the neural mechanisms of behavior. As a scientific discipline, psychobiology is a formal way to investigate the organization of behavior and how behavior is mediated by the nervous system.

In the course, we shall consider normal and pathological behavior and look how the phenomena of behavior are embodied in the levels of function of the nervous system. Because to do this we need to understand nervous system function, we will also study the make-up of the nervous system—its neuroanatomy and neurochemistry.

As a means of learning psychobiology material, we shall consider animal and human studies and the variety of experimental approaches used to gain psychobiology knowledge. We will test our understanding of the concepts by considering their implications for therapy.

Textbook
Although there is no required textbook for the course, I recommend An Introduction to Brain and Behavior (Fifth Edition) by Bryan Kolb, Ian Q Whishaw, and G. Campbell Teskey, 2016. Portions of the lecture material will come from this book. You may also use any earlier edition of the book. The book is available at the McMaster Bookstore. It is also available in several formats at macmillan student store (click on the hyperlink to go there), including loose-leaf or ebook, for purchase or rent. If you choose to rent or the ebook, please read through the terms and conditions by going to the get-help page to know what this entails. We are not using Launchpad for the course but if you are interested in the extra resources that come with the book (videos, immersive learning activities, flashcards, and quizzes) then you may wish to consider a package which includes the Launchpad option.
Course Format

Course format is designed to facilitate and encourage your role as a self-directed and enthusiastic learner. Thus, there are no final or midterm exams or quizzes because they generally have the unintentional side-effect of focusing the student on memorizing details as a learning strategy, in addition to creating in many a draining anxiety and pre-occupation about “what’s going to be on the test.” Instead, to focus your energies on acquiring skills that promote your curiosity and fascination about the biological bases of behavior (that is, Psychobiology), the format of the course includes the writing of two essays on a topic relevant to Psychobiology, a journal of your summaries of the lecture topics, twice-weekly lectures, a weekly tutorial session, and active discussion of the learning material.

Each component aims to foster your learning of the principles involved in the study of psychobiology. In other words, the emphasis of the course is on your obtaining “The Big Picture.”

Your final grade will be composed of the essays (2 x 27%), the journal diaries (2 x 18%), and course discussions (2 x 5%).

Essays

You will write the essays in groups of 4-6 students and each group will submit a single paper for marking. The first essay is due on October 18. The topic for the second essay will be posted on October 18 and will be due November 29.

The details of the first essay topic, format, etc., are described in a separate document (Psychobio_Essay1Topic_2018). Specifics of the second essay will be provided upon posting of the topic, but in very general terms it may be similar in format to the first essay.

You will be pre-assigned into essay groups. This information will be posted by your TA in your tutorial folder on LearnLink (each tutorial section has its own folder). You will stay with the same group for both Essay 1 and Essay 2.

Journal Diary

The journal diary is a series of summaries of each week worth of lecture material (12 in all), due Tuesdays by 11:00AM (see Psychobio_Calendar_2018). You will submit these electronically to the appropriate LearnLink folder as indicated in a separate document (Psychobio_JournalDiaryDescription_2018). Each journal entry will have 3 parts:

- A synopsis of the material presented in the lectures (remember, the focus is on the “big picture” not on the nitty-gritty);
- Further questions the lecture material raised in your mind (e.g., what are the implications of the material to therapy, education, society, philosophy, etc, or to other bodies of knowledge inside and outside psychobiology; what kinds of experiments could test some aspect of the information raised by the material; what else would be interesting to know to fully understand the issue(s) raised by the lecture material, etc); and,
- What to you is inconsistent and why. This last item is actually a bit more involved than at first appears, but this is explained in a separate document about the particulars of the journal diary (see, Psychobio_JournalDiaryDescription_2018).
Lectures

For lectures, I will spend one to three weeks per “theme” on about 8 “themes” that follow roughly selected chapters from the Kolb et al. textbook. I will use other sources as well (e.g., journal articles; my own research studies). The table at the end of this document lists the themes and the relevant chapters. Please note, however, that this list is neither a strict list (that is, a theme may include sections from more than one chapter and not all sections in a chapter) nor a firm one (that is, I may adjust/substitute the topics depending on how I gauge your interests and the progress of the lectures).

After each lecture I will post in the LearnLink Psychobiology folder 1G03 Lectures & Notes 18-19 a PDF file of my slides. Depending on whether it is suitable and ready, I may post the PDF slide file before the lecture but this is likely to be extremely sporadic.

I intend for the lectures to be interactive, which means that I encourage your asking any and all sorts of questions, from requests to clarify something that needs more explanation to puzzlement regarding the possible implications of the information to this or that issue. I will also ask you questions during the lecture, in the spirit of maintaining an interactive format. Just like you, I may not be able to answer a question posed during the lecture. In those cases, I will take it as a challenge to have an answer for the next session.

Tutorials

The weekly tutorial sessions with the TA are largely for clarification, discussion and elaboration of lecture material as well as for working in small groups on your essays. The TAs will attempt to answer your questions pertaining to the lecture material as well as the various tasks associated with writing the essays.

The format of the tutorial session is flexible except for the first 15 min of each tutorial, which are reserved for going over the lecture material (that is, you may spend more time on discussion of the lecture material but you may not spend less). You must initiate the discussion by asking questions of the TA - it is not the intent that the TA will give a shorter version of the weekly lectures.

The TAs are responsible for marking essays and journal diary entries and providing feedback.

LearnLink Help & Discussion

One way that you can know that you learned and integrated the new material is by being able to explain it to someone else so they understand it. Another way that you can gauge successful understanding is by the ease with which you can utilize the new material in different contexts; for instance, in a discussion on topics that are broader than the specific material itself. Yet another sign of understanding is the facility of raising interesting questions that extend the scope of the material learned (for instance: How does the particular psychobiology facts/concepts discussed in this week’s lecture relate to the movie/program you saw last week?). You will have the opportunity to use these means of learning psychobiology material by being an active participant on the LearnLink 1G03 Class Discussion 18-19 conference.

Specifically, by posting comments, responses, and questions to the 1G03 Class Discussion 18-19 LearnLink conference you will provide not only valuable help/input to your classmates but in the process you will also consolidate and integrate your own understanding of psychobiology.
concepts. Moreover, you will have the opportunity to use the LearnLink on-line discussion as an extension of the discussion begun during your tutorial and as a dry run and inspiration for your journal diary entries.

You will demonstrate your contribution to the on-line discussion and superior understanding of psychobiology concepts by completing a self-evaluation form. You will do this separately for the first 6 weeks of the course to claim the first 5% credit and then for 2nd half of the course (that is, from October 18 and onwards) to claim the remaining 5% credit (total 10%). The evaluations will be on a 5-point scale. The times for submission of the self-evaluations are October 26 and November 30 (the end of the day, that is, 11:59 PM). Late submissions are deducted 2% per day; the deduction is from the 5% mark; e.g., if late < 24 hr, then the maximum mark is 3%, etc. The format of your self-evaluation will be posted in October.

Course administration

For administrative issues/questions related to the course, please contact the Assistant Instructor, Shahad Al-Saqqar, via LearnLink. If the issue is also relevant to other students, please post a message to the 1G03 Course Coordinator 18-19 folder.

Outline of Topics

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Topic/Theme</th>
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<tbody>
<tr>
<td>1 &amp; 7</td>
<td>What Are the Origins of Brain and Behavior? What is Psychobiology and what are its methods of study?</td>
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<tr>
<td>2</td>
<td>How Does the Nervous System Function?</td>
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<td>3-5</td>
<td>How Do Neurons Communicate and Adapt?</td>
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<tr>
<td>6</td>
<td>How Do Drugs and Hormones Influence the Brain and Behavior? Principles of Drug Action</td>
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<tr>
<td>11-12</td>
<td>How Does the Nervous System Respond to Stimulation and Produce Movement? What Causes Emotional and Motivated Behavior?</td>
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<tr>
<td>9</td>
<td>How Do We Sense and Perceive?</td>
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<tr>
<td>14-15</td>
<td>How Do We Learn, Remember and Think?</td>
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My assumption is that every student at the university is a learner genuinely engaged in a scholarly pursuit. Should someone choose to violate this assumption, the policy set in Academic Integrity Policy document will apply. A good source for issues related to plagiarism is provided at McMaster's Academic Integrity Website.

Please note that "the instructor, program and the university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If modifications become necessary, reasonable notice and communication with the students will be given. Students will be provided with an explanation and an opportunity to comment. It is the responsibility of the student to check their McMaster email and the course website/LearnLink weekly during term. Any significant changes will be made in consultation with the BHSc Assistant Dean."