

Biology 367 Neurobiology: Molecules to Behaviour

Spring 2022

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- Office hours: Delaney: Available for 30 minutes after each lecture or by appointment

Information in this outline is current as of Jan. 9, 2022 and subject to update. Any changes to the outline will be advertised in lecture and available on BrightSpaces.

Zoom link for on-line as of Jan 8:

<https://uvic.zoom.us/j/6974393908?pwd=YXR5TGhyT3NodHZWQUF0ZzNhV2tFQT09>

• **Course objective:** To acquire knowledge of the principles of function of nervous systems through an understanding of the cellular properties of neurons and their integration into neural circuits to produce behavior and perception. Topics to be covered include:

- Structure of neurons and nervous tissue
- Electrical properties of neurons: passive and active, ion channel properties
- Synaptic transmission between neurons: presynaptic and postsynaptic elements
- Synaptic plasticity: activity and neuromodulator dependent processes
- Learning and memory: plasticity at the cellular and systems level
- Sensory Systems: transduction of sensory signals, sensory system integration
- Motor Systems: motor control and motor system dysfunction (disease and injury)
- Physiological basis for higher order neural processes – Emotion, Addiction, Sleep etc.

• **Course Evaluation:**

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| In Class Quiz | (10%) (0.5hrs) Feb. 07 |
| Midterm Exam | (30%) (1.4 hrs) Feb. 17 (prior to reading break since last day to drop course is Monday Feb. 28) |
| Final Exam | (60%) (3.0 hrs) Scheduled by U/G Records |

Material tested in examinations will be derived directly **from material presented in class and related** material from sections of the course textbook –see below.

If a student cannot attend the midterm they must contact Dr. Delaney by email or phone as soon as possible – either within 24 hours or have a good reason for not contacting within 24 hours -- to determine **if** a make-up exam is possible. Once the answers to the midterm are available a make-up exam will not be possible.

If illness prevents writing of the FINAL examination students must inform the instructor AND the student must submit a Request for Academic Concession (RAC) to enable their N grade to be entered as DEF. If a missed final cannot be accommodated before the submission of final marks then the DEF exam will be scheduled by Undergraduate Records during their deferred exam period.

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• **Required text:** Purves et al, Neuroscience 5th or 6th ed.
<http://www.oupcanada.com/catalog/9781605353807.html> . Note: The changes from the 5th to 6th edition are small and in the event of a conflict in information the lecture notes will clarify which is correct. Comparable material can be found in several substitute texts such as Principles of Neuroscience (Kandel et al.), Fundamental Neuroscience (Zigmond et al.) or Principles of Neurobiology (Quo) but it will be the responsibility of students using these texts as alternates to locate and identify the corresponding material in these texts.

• **Grading:**

Marks will be assigned consistent with University Guidelines as follows: (see <https://web.uvic.ca/calendar2017-09/undergrad/info/regulations/grading.html>)

No supplemental exams or assignments will be offered and no E grades will be awarded (Biology Dept. Policies)

Students are to attend to ADD/DROP dates published in the Calendar and posted on the Undergraduate Records website. **Students must not assume they will be dropped automatically from any course they do not attend.** Students are responsible for checking their records and registration status.

Students requesting DEFerral of a final exam or Aegrotat grade must contact Undergraduate Records, Main Floor, University Centre, for a “Request for Academic Concession” form. As per university procedures if you do not write the final exam you will receive an ‘N’ grade which requires an RAC to be completed and approved before a DEF can be awarded to allow a make-up exam to be written.

• **Academic Integrity:**

It is assumed that you have read and understand the material at:
<https://www.uvic.ca/students/academics/academic-integrity/index.php>. An academic integrity pledge will need to be completed prior to commencing writing of exams.