

Winter 2022 Course Syllabus
Sensorimotor Systems (NROC64)

Professor: Mark Morrissey, Ph.D.

Online Lectures: Available via Quercus. Lectures will be posted Thursday evenings each week.

Teaching Assistants: Kylie Lau, Maryam Ali

Course Email: NROC64.w2022@gmail.com

A note on email communication: All questions regarding the course, lectures, readings, exams, etc. must be sent to the course email address: NROC64.w2022@gmail.com. Questions that have already been answered in the course syllabus, in lecture slides, or on Quercus will not receive a response. Students are asked to contact Dr. Morrissey directly for personal or confidential matters only, at mark.morrissey@mail.utoronto.ca

** Please note: Course announcements will be made through Quercus. Students are responsible for monitoring the course website regularly for important announcements and updates. Class emails will also be sent through Quercus. Therefore, students are responsible for making sure that their listed email address is correct. **

REQUIRED TEXTBOOK: Neurophysiology: A Conceptual Approach, Fifth Edition
Roger Carpenter

SUPPLEMENTAL READINGS: Supplemental readings will be provided for each lecture. Material covered from these readings in lecture will be testable. They will also serve as the basis for the two course papers. See Excel sheet posted on Quercus

COURSE DESCRIPTION: A focus on the mechanisms by which the nervous system processes sensory information and controls movement. The topics include sensory transduction and the physiology for sensory systems (visual, somatosensory, auditory, vestibular). Both spinal and central mechanisms of motor control are also covered.

COURSE OBJECTIVES:

1. Develop a foundational understanding of sensorimotor systems
2. Strengthened your ability to consume scientific literature
3. Practice the acquisition of scientific knowledge
4. Practiced your ability to understand, critique and communicate original research in psychology and neuroscience
5. Train your ability to effectively communicate scientific knowledge to others

Prerequisite:
(BIOB30H &) NROB60H, exclusion (but not equivalent): PSY290H

COURSE STRUCTURE The format of the course will consist primarily of lectures, but will also include video and other methods to help illustrate course material. The material covered in lectures will generally correspond to the material in the textbook, but will often serve to supplement the readings rather than simply duplicate their contents. Therefore, I strongly recommend having completed the relevant readings prior to watching the accompanying online lecture; having done so will make the learning experience more enjoyable and productive. I will also present material that is not included in the readings; therefore, familiarity with both lectures and course readings is necessary to succeed in this course. You will be responsible for all material presented in class and in the required readings.

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|---------------|-----|-------------------|
| Quiz 1 | 5% | Week 4 |
| Mid-term Exam | 30% | TBA |
| Paper #1 | 10% | Due March 5 |
| Quiz 2 | 5% | Week 8 |
| Paper #2 | 15% | April 3 |
| Quiz 3 | 5% | Week 12 |
| Final Exam | 30% | April Exam period |

QUIZZES, TERM TEST AND FINAL EXAM

mTuner quizzes (5% each): Students will be required to complete three closed-book online quizzes during the semester. These quizzes will be taken online with mTuner. mTuner allows for enhanced online multiple-choice tests specifically designed to help promote students' learning and understanding of the course material. The quizzes are designed to help students keep up with the course material and be prepared for the mid-term and the final exam. No extensions will be granted for completing the quizzes. All quizzes are **closed-book**. Specific details about the mTuner quizzes will be provided on Quercus.

- Quiz 1: Will take place during week 4 (Thursday 10am-Friday 10pm) and will cover material from weeks 1-3.
- Quiz 2: Will take place during week 8 (Thursday 10am-Friday 10pm) and will cover material from Weeks 4-7.
- Quiz 3: Will take place during week 12 (Thursday 10am-Friday 10pm) and will cover material from Weeks 8-11.

Mid-term examination (30%): The mid-term exam will cover all required readings and lecture material covered before the mid-term. The exam will consist primarily of multiple-choice questions, with a few short answer questions, will not exceed two hours and **closed-book**. The exam will be scheduled by the registrar.

Final examination (35%): The final exam will be cumulative. It will cover all course material however **an emphasis will be placed on material covered after the mid-term**. The exam will consist of multiple-choice questions, will not exceed two hours, and be closed-book. The final exam will be scheduled during the University examination period.

Papers: The purpose of the two papers is help you practice and develop several key skills 1) reading & understanding primary research papers 2) knowledge translation 3) clear writing and scientific communication.

The idea behind the readings and the papers is that you have a chance to practice reading scientific articles. Being able to do so is an absolute must in many professional areas, inside and outside the university. Because this is a skill there is no other way to learn it but to practice.

Paper #1 (10%): ELI5 (Explain like I'm Five)

The purpose of this paper is to practice and develop your knowledge translation skills. Choose ONE paper from the supplemental reading list and write a 1-PAGE summary of the study. Your audience is someone without a strong science or psychology background. Translate the paper into a clear summary that communicates the purpose, background, what was done, what they found and what it means. There is a strict 1-page (1.5 spacing) limit for this paper.

Paper #2 (15%): Lit Review

The purpose of this paper is to demonstrate your ability to read and understand a scientific paper and translate the paper into a 2-PAGE summary. The style of this paper is more of a literature review, and the audience is someone with a solid science and psychology background. Translate the paper into a clear summary that covers the purpose, the hypothesis, the method, results and discussion. Your summary should also include a critical view of the paper (what does it mean, why is it important, what are strength and what are weaknesses). There is a strict 2-page (1.5 spacing) limit for this paper.

Late submissions will be assessed late penalties according to the following schedule. 2.5% per day for the first two days. 5% per day for each following day.

Papers will be submitted online through the Quercus Assignments page and will be passed through plagiarism detection.

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (<https://uoft.me/pdt-faq>).

Help with Writing

If you would like help with academic writing, the following resources are available to you:

- The Centre for Teaching and Learning (AC312) Writing Centre offers students oneto-one appointments and supplementary materials to help improve upon their writing skills. <http://ctl.utsc.utoronto.ca/home/> <http://ctl.utsc.utoronto.ca/twc/>
- The English Language Development Centre offers support and specialized writing programs for students who do not speak English as their primary language. <http://ctl.utsc.utoronto.ca/eld/>
- Advice on academic writing <http://www.writing.utoronto.ca/advice>

Literature Searches

Students can use the following resources when conducting literature searches to find relevant articles for their presentation and final essay:

The UTSC Library (AC235)

<http://www.library.utoronto.ca/utsc/>

PubMed

<http://www.ncbi.nlm.nih.gov/pubmed>

PsychINFO

<http://www.apa.org/pubs/databases/psycinfo/index.aspx>

Google Scholar

<http://scholar.google.ca/>

| Lecture Date | Lecture Topic | Readings |
|------------------------|------------------------|------------------------|
| Week 1 (Jan 10) | Introduction, Methods | Chapter 1 (& Appendix) |
| Week 2 (Jan 17) | Vision1 | Chapter 7 |
| Week 3 (Jan 24) | Vision 2 | Chapter 7 |
| Week 4 (Jan 31) | Properties of Drugs | Chapter 4 |
| Week 5 (Feb 7) | Skin & Proprioception | Chapter 4,5 |
| Week 6 (Feb 14) | Hearing, Smell & Taste | Chapter 6,8 |
| Feb 19-26 Reading Week | | |

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|------------------|---------------------------------|------------|
| Week 7 (Feb 28) | Motor Systems | Chapter 9 |
| Week 8 (Mar 5) | Local Motor Control | Chapter 10 |
| Week 9 (Mar 12) | Posture | Chapter 11 |
| Week 10 (Mar 19) | Higher Motor Functions | Chapter 12 |
| Week 11 (Mar 26) | Pointing, reaching and grasping | Chapter 12 |

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|-------------------|---------------------|----------------|
| Week 12 (April 4) | Behavioural Control | Chapters 13-14 |
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*Please note that this outline is subject to change depending on the needs of the class (we may need additional time to cover a topic). Any changes to the syllabus will be announced ahead of time. However, the test dates will be fixed.

Psychology Department Missed Term Work Policy, WINTER 2022

For missed term work (assignments and term tests) due to illness, emergency, or other mitigating circumstances, please follow the procedures outlined below.

- The following reasons are not considered sufficient for missed term work: travel for leisure, weddings, personal commitments, work commitments, human error.
- Missed Final Exams are handled by the Registrar's Office and should be declared on eService: <http://www.utoronto.ca/registrar/missing-examination>
- Instructors cannot accept term work any later than five business days after the last day of class. Beyond this date, you would need to file a petition with the Registrar's Office: <https://www.utoronto.ca/registrar/term-work>

Accommodations for Illness or Emergency:

For missed work due to ILLNESS OR EMERGENCY, complete the following three-step process: 1. Complete the Request for Missed Term Work Accommodations Form 2. Declare your absence on ACORN (Profile & Settings > Absence Declaration)

3. Email both the Request for Missed Term Work Accommodations Form AND a screenshot of your Self-Declared Absence on ACORN to the email address provided by your instructor on the course syllabus WITHIN 2 BUSINESS DAYS of the missed work.

Note: If you are unable to submit your documents within 2-business days, you must still email your instructor within the 2-business day window to explain the nature of the delay, and when you will be able to provide your documents. Exceptions to the documentation deadline will only be made under exceptional circumstances.

Note: For this semester, we do not require any additional supporting documentation (e.g. medical notes) to support your missed term work accommodation request.

Accommodations for Academic Conflicts:

For missed term work due to an ACADEMIC CONFLICT (i.e. two midterms scheduled at the same time), please complete the following process: 1. Complete the Request for Missed Term Work Accommodations Form, choosing "Other" and explaining the conflict in the space provided.

2. Take screenshots of your course homepages that demonstrate the conflict.

3. Email the form and screenshots to your course instructor at least two weeks (10 business days) before the date of the activity, or as soon as possible if it was not possible to identify the conflict earlier.

Note: Multiple assignments due on the same day are not considered conflicts. Accommodations may only be possible in the case of quizzes and tests that are both scheduled during the same discrete period. Back-to-back tests/quizzes are not considered conflicts.

Note: Students are responsible for keeping their course timetables conflict-free. Students who choose to register in two synchronous courses with overlapping lecture/tutorial/lab schedules will not be accommodated.

Accommodations for Religious Conflicts:

For missed term work due to a RELIGIOUS CONFLICT, please complete the following process: 1. Complete the Request for Missed Term Work Accommodations Form, choosing “Other” and noting “Religious conflict” in the space provided.

2. Email the form to your course instructor at least two weeks (10 business days) before the date of the activity, or as soon as possible if it was not possible to identify the conflict earlier.

Accommodations for Students Registered with AccessAbility Services:

For missed TERM TESTS due to ACCESSABILITY REASONS:

- Contact your AccessAbility consultant and have them email your instructor detailing accommodations required.

For missed ASSIGNMENTS due to ACCESSABILITY REASONS:

- If your desired accommodation is within the scope of your Accommodation Letter (e.g. your letter includes “extensions of up to 7 days” and you need 3 days): 1. Complete the Request for Missed Term Work Accommodations Form.

2. Email the form and your Accommodation Letter to your instructor, specifying how many days extension you are requesting.

- If your desired accommodation is outside the scope of your Accommodation Letter (e.g. your letter includes “extensions of up to 7 days” but you need more time than that):

1. Contact your AccessAbility consultant and have them email your instructor detailing the accommodations required.

Accommodation Procedure:

After submitting your documentation, you will receive a response from your instructor or TA. This form does not guarantee that you will be accommodated. The course instructor reserves the right to decide what accommodations (if any) will be made. Failure to adhere

to any aspect of this policy may result in a denial of your request for accommodation. You are responsible for checking your official U of T email and Quercus course announcements daily, as accommodations may be time-critical.

For missed assignments, do not wait for an instructor response to resume work on your assignment. Extension accommodations may be as short as one business day, depending on the nature of the illness/emergency. You should complete your assignment as soon as you are able and email it your instructor.

For an anticipated event (e.g. scheduled surgery or an illness with a prolonged recovery period), submit a Verification of Illness Form completed by your doctor, AND this form to your instructor if you would like to request accommodations in advance of the assignment deadline or midterm date. Declare your future absence on ACORN (absences can be declared up to 14 days in the future).

Missed Accommodations

If an accommodation is granted but a continued illness/emergency prevents you from meeting the requirements of your accommodation, you must repeat the missed term work procedure to request additional accommodations. Please make it clear in your subject line that you are requesting a second accommodation. For example, if you are given an extension but are still sick and need more time, or if you miss a make-up midterm, you must submit another request 'Missed Term Work Accommodations' form and declare your extended absence on ACORN. ***Note: In the case of a missed make-up test, an opportunity to write a second make-up test may not be provided.

Grade Scale

| NUMERICAL MARKS | LETTER GRADE | GRADE POINT VALUE |
|-----------------|--------------|-------------------|
| 90 - 100% | A+ | 4.0 |
| 85 - 89% | A | 4.0 |
| 80 - 84% | A- | 3.7 |
| 77 - 79% | B+ | 3.3 |
| 73 - 76% | B | 3.0 |
| 70 - 72% | B- | 2.7 |
| 67 - 69% | C+ | 2.3 |
| 63 - 66% | C | 2.0 |
| 60 - 62% | C- | 1.7 |
| 57 - 59% | D+ | 1.3 |
| 53 - 56% | D | 1.0 |
| 50 - 52% | D- | 0.7 |
| 0 - 49% | F | 0.0 |