

NEUR*2000, Course Outline: Fall 2024

General Information

Course Title: Foundations in Neuroscience

Course Description:

This course emphasizes the structure and function of the human brain. General principles of the function and organization of nervous systems will be discussed, providing both an overview of the subject and a foundation for advanced courses. Topics will include the physical and chemical bases for action potentials, synaptic transmission, and sensory transduction; anatomy; development; sensory and motor pathways; and the neuroscience of brain diseases.

Credit Weight: 0.50

Restriction(s): PSYC*2410. This is a Priority Access Course. Enrolment may be restricted to particular programs or specializations or semester levels during certain periods.

Requisites: 4.00 credits including BIOL*1090 - Must be completed prior to taking this course.

Academic Department (or campus): Department of Psychology

Semester Offering: F24

Class Schedule and Location: Tuesday & Thursday, 1:00-2:20 PM, MCLN 102

- **This syllabus serves as the standard operating document for the course. The student is responsible for being aware of all elements of the course syllabus. If a student has a query on any aspect of the course, they are first to consult the syllabus for the relevant policy and/or procedure before seeking clarification from the course instructor. The core policies and procedures are not subject to modification during the course of the semester.**

Instructor Information

Instructor Name: Danny M. Pincivero, PhD

Instructor Email: dpinci@uoguelph.ca

Teaching Assistants: Charlotte Larochelle-Compton (claroche@uoguelph.ca); Karim Abou El Naga (abouelnk@uoguelph.ca).

Office hours: Appointment by email.

- When sending an email to the course instructor or teaching assistants, make sure to type the course code (i.e., NEUR 2000) into the Subject heading of the email and you MUST use your University of Guelph issued email address. Email messages not adhering to these conditions will not be read and will be deleted.
- Emails will be read and IF replied to, will typically be done during the regular weekday working hours (Mon-Fri, 9:00 AM to 5:00 PM). Note that not all email communications to the instructor and teaching assistants may receive a reply. Examples of emails that may not likely receive a reply are those that convey rude, disrespectful, or vexatious comments; requests for information that is present in the course syllabus or other documentation (although students are encouraged to ask for clarifications on any of the course content or expectations that they might find not clear); questions about deadlines

or where to find items on Courselink. Note that these examples are not an exhaustive list of reasons.

INSTRUCTOR COMMUNICATIONS

- Throughout the course, the instructor will make routine use of the **Announcements** tool in Courselink to post regular updates, reminders, deadlines, etc., as a means of communicating important information to the students.
- It is the responsibility of every student to regularly check and read the Announcements for any such updates in the course.
- All of the Announcements will be retained on Courselink during the semester to provide the students with the opportunity to review any of the posted items.

Course Content

Specific Learning Outcomes:

A. Critical and Creative Thinking

1. Depth and Breadth of Knowledge
 - Describe core concepts in the application of fundamental neuroscience.
2. Inquiry and Analysis
 - Formulate questions about the mechanistic basis of human behavior from a neuroscience perspective.
 - Recognize the importance of supporting statements with evidence.
3. Problem Solving
 - Identify fundamental anatomical and physiological mechanisms to understand healthy and pathological neurological states.

B. Literacy

1. Methodological literacy: The ability to understand, evaluate, and apply appropriate methodologies for rigorous psychological science.
2. Anatomical/physiological literacy
 - Understand and demonstrate the core anatomical and physiological elements of the human nervous system.

C. Communication

1. Reading Comprehension (e.g., reading original research articles)
 - Understand sophisticated theoretical and empirical writing in psychology.
2. Listening skills (a component of Oral communication).
 - Summarize information in a clear and concise way.
3. Oral and Written Communication
 - Present ideas in a logical order consistent with anatomical and physiological neuroscience concepts.
 - Apply written communications with the appropriate vocabulary and format following American Psychological Association guidelines.

D. Personal and ethical behaviour

1. Ethical issues in research
 - Understand ethical principles in evaluating research.
2. Personal organization/ time management

- Recognize the importance of planning for completion of tasks.
- Deal with intense time pressures, prioritize and complete tasks to schedule.
- Demonstrate personal accountability and responsibility.

LECTURE SCHEDULE

- The instructor reserves the right to modify the schedule of topics outlined in the table below. Every effort will be made to adhere to this schedule as close as possible.
- The teaching approach to the lectures will mainly be a PowerPoint based presentation, in which the students will receive a “skeleton” copy of the notes posted to Courselink. These notes will contain the major items that will be taught and lecture is designed to “fill in the blanks” on the slides. The instructor will also make regular use of the overhead document camera to handwrite items on blank paper; it is recommended that students bring blank paper or any other writing device they might require to write these additional notes.
- **IMPORTANT**: Taking photographs or video recordings of any items related to the teaching of course material during the regularly scheduled class periods is **STRICTLY PROHIBITED**, unless permission is granted by the instructor.
- The instructor’s set of notes will NOT be posted to Courselink, nor will be provided by any other means.
- The instructor will most likely screen and audio capture the lectures and will post links to those lecture recordings on Courselink (this usually takes about 1 day). Lectures will NOT be live-streamed. Note that these recordings are NOT guaranteed nor are these recordings meant to be a replacement for in-person learning. These recordings may also not entirely capture the instructor’s voice in teaching the material. As such, the recordings are NOT meant to be a replacement for regular class attendance but will allow students to catch up in the event they do miss some classes or wish to review the lectures that they have attended.

COURSE ASSESSMENTS (online quizzes and examinations)

- All of the course material that will be the basis of questions on the online quizzes and examinations will be drawn ENTIRELY from lecture content ONLY. The textbook reference chapters will serve as the primary source of information that is used in constructing lecture material.
- As the required textbook in this course is very comprehensive in its’ coverage of neuroscience topics, material that is not specifically taught in lecture will NOT be used to develop quiz and examination questions.
- In rare instances, the instructor may produce online lectures covering a particular topic that will be the students’ responsibility to cover, and this material is testable on quizzes and examinations.
- Specific information on each quiz and examination will provided throughout the course using the Announcements tool in Courselink.

LECTURE SCHEDULE

DATE	LECTURE TOPIC AND ACTIVITIES	TEXTBOOK REFERENCE
WEEK 1 Sept 5-6	<u>NEUR 2000: First day of class (Thursday September 5)</u> <ul style="list-style-type: none"> Introduction to Neuroscience, the nervous system, and human neuroanatomy. 	Chapter 1
WEEK 2 Sept 9-13	<ul style="list-style-type: none"> The nervous system, and human neuroanatomy. Friday September 13: Last day to add F24 courses.	Chapter 1
WEEK 3 Sept 16-20	<ul style="list-style-type: none"> Bioelectrical signalling. ONLINE QUIZ 1 OPENS (Thurs Sept 19, weeks 1-2 content). 	Chapters 2-4
WEEK 4 Sept 23-27	<ul style="list-style-type: none"> Bioelectrical signalling. 	Chapters 2-4
WEEK 5 Sept 30-Oct 4	<ul style="list-style-type: none"> Synaptic activity and transmission. ONLINE QUIZ 2 OPENS (Thurs Oct 3, weeks 3-4 content) 	Chapters 5 and 6
WEEK 6 Oct 7-11	<ul style="list-style-type: none"> Neurotransmitters and receptors. 	Chapters 5 and 6
WEEK 7 Oct 14-18	<ul style="list-style-type: none"> Sensory systems Monday October 14, Holiday, no class. Tuesday October 15, Fall Study Break Day, no class. <ul style="list-style-type: none"> ONLINE QUIZ 3 OPENS (Thurs Oct 17, weeks 5-6 content) 	Chapters 9-15
WEEK 8 Oct 21-25	<ul style="list-style-type: none"> Sensory systems <u>MIDTERM EXAMINATION: Thursday October 24.</u>	Chapters 9-15
WEEK 9 Oct 28-Nov 1	<ul style="list-style-type: none"> Sensory systems ONLINE QUIZ 4 OPENS (Thurs Oct 31, weeks 7-8 content) 	Chapters 9-15
WEEK 10 Nov 4-8	<ul style="list-style-type: none"> Motor systems 	Chapters 16-19
WEEK 11 Nov 11-15	<ul style="list-style-type: none"> Motor systems ONLINE QUIZ 5 OPENS (Thurs Nov 14, weeks 9-10 content) 	Chapters 16-19
WEEK 12 Nov 25-29	<ul style="list-style-type: none"> Early brain development, neuronal growth/guidance, and synapse formation. Wed. Nov. 27 – Last day regularly scheduled class. Thurs. Nov. 28 – Classes rescheduled from Tues. Oct. 15. Fri. Nov. 29 – Classes rescheduled from Mon. Oct. 14.	Chapters 22-26
Dec 2-13	University of Guelph final examination period FINAL EXAM – Monday December 9, 2024 (2:30-4:30 PM).	

NOTE: The instructor reserves the right to modify the schedule of topics above. Every effort will be made to adhere to this schedule as close as possible.

COURSE ASSIGNMENTS AND TESTS

Assessment	Due Date	Contribution to Final Grade (%)	Learning Outcomes Assessed
Online quizzes	Refer to course schedule.	8% each x 5 = 40%	A1-3; B1-2; C1-3; D1-2
Midterm Exam**	Thursday October 24 (in-person, 1:00 – 2:20 PM, MCLN 102). Weeks 1-7 content.	30%	A1-3; B1-2; C1-3; D2
Final Exam**	Monday December 9, 2:30-4:30 PM (in-person). Weeks 8-12 content.	30%	A1-3; B1-2; C1-3; D1-2

NOTE: There will be NO extra credit opportunities for course and non-course related activities. Travel for any reason is NOT a justifiable basis for a missed/incomplete exam/quiz in the course.

****The MIDTERM EXAMINATION and FINAL EXAMINATION are REQUIRED assessments for this course (the final examination is scheduled by the Registrar's Office). There are no options to write the final examination at a different day/time than what is scheduled by the Registrar's Office, except for College level approved deferrals which take place during Winter 2025 semester.**

Course Resources

Required Text:

Neuroscience (6th Edition, 2018) Edited by Dale Purves, George J. Augustine, David Fitzpatrick, William C. Hall, Anthony-Samuel LaMantia, Richard D. Mooney, Michael L. Platt, and Leonard E. White. Published by Sinauer Associates, Oxford University Press. ISBN: 9781605353807

Other Resources:

Additional resources will be provided on Courselink.

COURSE REQUIREMENTS

For the online quizzes students will be provided a window of time (approximately 1 week) to complete such items. It is strongly recommended that students do NOT wait until the final day of the deadline to begin work on these items as no additional time will be provided.

*******DATES AND DEADLINES*******

The relevant dates for the midterm and final examinations, and the deadlines for completion of the online quizzes have been posted within the course syllabus and on Courselink. Although not guaranteed, the course instructor will also post reminders of impending dates and deadlines, as Announcements on Courselink. It is important to note that the stated dates and deadlines are **NOT SUGGESTIONS**; these are required dates and deadlines that once posted on the course syllabus and Courselink are not subject to modification, unless under university established or instructor determined (SAS, university student wellness interventions, or other extenuating and confirmed accommodations) rare and extreme circumstances.

ONLINE QUIZZES (8% each x 5 = 40% of final grade)

- The online quizzes will be made available on Courselink and will be opened on the **THURSDAY** of the scheduled week and will remain open through **TUESDAY** of the following week and will close at **11:59 AM**. All content that will be addressed in the online quiz questions will be drawn entirely from lecture material only.
- **IMPORTANT NOTE:** All the online quizzes are to be completed during the allocated time of availability in Courselink. Missed quizzes CANNOT be made up and under no circumstances will the percent value of a missed quiz be shifted to any other quiz, assignment, or exam. It is the student's responsibility to ensure that they have adequate computer/internet resources in place at the time they intend on completing the quiz. The questions/answers to the online quiz will be released soon after the closing day/time. The online quizzes **WILL NOT** use the Respondus Lockdown browser. It is strongly recommended that students **DO NOT** wait until the final day of availability to attempt the online quiz.

MIDTERM EXAMINATION (30% of final grade)

The midterm examination (**Thursday October 24; 1:00 – 2:20 PM; MCLN 102**) will be comprised of multiple-choice and/or short answer questions. The midterm exam is an in-person examination taken during the regularly scheduled class period and classroom and may require hand-written responses to questions on provided paper documents. The midterm examination will cover material from **weeks 1 to 7**. The midterm exam is a **REQUIRED** assessment in the course and the weighting will **NOT** be transferred to the final exam or any other assessment. Students are permitted **ONE AND ONLY ONE ATTEMPT** at taking the midterm examination. Further details on the midterm examination will be provided on Courselink.

FINAL EXAMINATION (30% of final grade)

The final examination (**TBA**) will be comprised of multiple-choice and/or short answer questions. The final examination is an in-person examination taken during the university established day, time, and location and may require hand-written responses to questions on provided paper documents. The final examination will cover material from **weeks 8 to 12**. The final exam is a **REQUIRED** assessment in the course and the weighting will **NOT** be transferred

to any other assessment. Students are permitted **ONE AND ONLY ONE ATTEMPT** at taking the final examination. Further details on the final examination will be provided on CourseLink.

Respondus lockdown browser may be in effect.

Respondus LockDown Browser is a locked browser for taking quizzes in CourseLink. It will be required to take the midterms and final exam. It prevents you from printing and copying; using other operating software; using search engines (e.g., going to another URL); communicating via instant messaging; and it blocks non-web-related software (e.g., Adobe PDF, Microsoft Word). Respondus Monitor is a companion application for LockDown Browser that uses webcam and video technology to ensure academic integrity during online exams. The software captures video during the exam and allows the instructor to review the video once the exam is completed. In order to use Respondus LockDown Browser and Monitor, you must meet the following technical requirements so that you can take the practice test and midterm exam:

1. Operating Systems: Windows 10, 8, 7; Mac OS X 10.10 or higher.
2. Memory: Windows 2 GB RAM; Mac 512 MB RAM.
3. For Mac users: Safari must function properly on the computer.
4. Mac users must have Adobe Flash Player installed to Safari, even if a different browser is normally used.
5. Functioning webcam and microphone. The webcam and microphone can be built into your computer or can be the type that plugs in with a USB cable. (You will be required to do an environment scan of your room, so please ensure you can move your computer, laptop or webcam for this scan.)
6. A broadband Internet connection. It is recommended that you access the Internet via a wired connection.

If you have any concerns about meeting system requirements, contact CourseLink Support. They will work with you to find alternative solutions or make alternative arrangements.

- This course requires the use of Respondus LockDown Browser and Monitor (webcam) for proctoring within CourseLink. You must **download and install LockDown Browser and Monitor** to complete the practice test (if provided) and course exam(s). The purpose of the practice test is to ensure that Respondus LockDown Browser and Monitor is set up properly and that you are comfortable using the software.
- Respondus LockDown Browser is a locked browser connected to the Quizzes tool in CourseLink. It prevents you from printing and copying, using other operating software, using search engines (e.g., going to another URL), communicating via instant messaging, and it blocks non-web-related software (e.g., Adobe PDF, Microsoft Word).
- Respondus Monitor is a companion application for LockDown Browser that uses webcam and video technology to ensure academic integrity during online exams. The software captures video during the exam and allows the instructor to review the video once the exam is completed.
- In order to use Respondus LockDown Browser and Monitor, you must meet the **technical requirements**. Visit the Remote Learning website for guidance on **preparing your online exam environment**.
- If you have any concerns about meeting system requirements, contact **CourseLink Support**. They will work with you to find alternative solutions or make alternative arrangements.

Effective time management is critical. To succeed in this course, it is essential that you keep up with the readings, weekly learning curve, quiz and research in action activities. You should take a disciplined approach in planning to complete the graded assignments. You are encouraged to ask questions when you are struggling.

Late or missed deadlines:

Midterm. If a student misses the midterm exam due to medical, psychological or compassionate reasons, then the midterm may be re-scheduled. If a student fails to provide appropriate grounds for academic consideration, the grade on the missed midterm will be 0.

Final exam. Students who do not write the final examination are required to follow the University's procedures for requesting academic consideration (see below).

Course Policy on Group Work:

Each student is expected to complete all assignments on their own. If there is evidence that students are collaborating inappropriately (i.e., sharing computer analysis outputs) while completing assessments, then those cases will be dealt with as per the regulations on Academic Misconduct. Students are certainly permitted and encouraged to work with each outside of scheduled classes but the submissions must be the student's own work.

Course Policy regarding use of electronic devices and recording of lectures:

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted, they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor. Similarly, any material created by the course instructor is intended for those enrolled in this course solely. Under no circumstances are you allowed to disseminate course materials to external parties.

Student Rights and Responsibilities when Learning Online: ONLINE BEHAVIOUR.

According to the University Secretariat, students have a responsibility to help support community members' access to the tools they need to engage in their learning and development, both in and outside of the classroom. An example of this type of responsibility is the requirement to abide by the following:

Section 4.3.3. Disruption - to not interfere with the normal functioning of the University, nor to intimidate, interfere with, threaten or otherwise obstruct any activity organized by the University, including classes, or to hinder other members of the University community from being able to carry on their legitimate activities, including their ability to speak or associate with others.

As such, inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students
- Using obscene or offensive language online
- Copying or presenting someone else's work as your own
- Adapting information from the Internet without using proper citations or references
- Buying or selling term papers or assignments
- Posting or selling course materials to course notes websites
- Having someone else complete your quiz or completing a quiz for/with another student
- Stating false claims about lost quiz answers or other assignment submissions
- Threatening or harassing a student or instructor online

- Discriminating against fellow students, instructors and/or TAs
- Using the course website to promote profit-driven products or services
- Attempting to compromise the security or functionality of the learning management system
- Sharing your username and password

University Policies

For information on current safety protocols, follow these links: <https://news.uoguelph.ca/return-to-campuses/how-u-of-g-is-preparing-for-your-safe-return/>

<https://news.uoguelph.ca/return-to-campuses/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives

Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email. This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:

[Academic Consideration, Appeals and Petitions](#)

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not

relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

[Academic Misconduct Policy](#)

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact [Student Accessibility Services](#) (SAS) as soon as possible.

It is solely the student's responsibility to make the necessary arrangements with Student Accessibility Services regarding any of the assessments in the course (typically, a 10 day reservation period is required to book time with SAS). In the event that the student did not make such arrangements, accommodations for in-person assessments by the instructor may not be possible.

For more information, contact SAS at 519-824-4120 ext. 54335 or email accessibility@uoguelph.ca or the [Student Accessibility Services Website](#).

Course Evaluation Information

Please refer to the [Course and Instructor Evaluation Website](#) .

Drop date

The last date to drop one-semester courses is Friday November 29 2024. For regulations and procedures for Dropping Courses, see the [Schedule of Dates in the Academic Calendar](#).

Additional Course Information: Turnitin software

Course instructors are allowed to use software to help in detecting plagiarism or unauthorized copying of student assignments. Plagiarism is one of the most common types of academic misconduct on our campus. Plagiarism involves students using the work, ideas and/or the exact wording of other people or sources without giving proper credit to others for the work, ideas and/or words in their papers. Students can unintentionally commit misconduct because they do not know how to reference outside sources properly or because they don't check their work carefully enough before handing it in. Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

In this course, your instructor will be using Turnitin.com to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to prevent plagiarism in the College of Social and Applied Human Sciences.

A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing misconduct. In this course, you may screen your own assignments through Turnitin as many times as you wish before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.