

Faculty of Health School of Kinesiology and Health Science

Course: HH/KINE 3650 3.0 FUNCTIONAL NEUROANATOMY

Course Webpage: eClass

Term: *Fall 2022*

Time and Location

Lecture: Tues. 1pm – 2:30pm ACE 009
 Thurs. 1pm – 2:30pm ACE 011

Prerequisite: HH/KINE 2031 3.00 or SC/BIOL 4370 3.00 or HH/PSYC 3250 3.00

Course Instructor

Course Director: *Heather Jordan, PhD*

She/Her/Dr. Jordan

Email: hjordan@yorku.ca

Office Hours: Bethune 342 Tuesdays 3.00 – 4.00 pm by appointment using the scheduler on the e-class website or appointment by e-mail

Teaching Assistant: Nicole Smeha

Email nsmeha@my.yorku.ca

Office Hours: Sherman HRC 2010 Wednesday 12.45 – 1.45 pm by appointment using the scheduler on the e-class website

Course Learning Objectives

The student will both recognize, and understand the function of, the main neuroanatomical structures of the human Central Nervous System. This course serves as an anatomical introduction to cognitive neuroscience and the functional circuits of the central nervous system. While strong memorization skills are useful, the ability to apply anatomical knowledge to problem solve clinical cases will be emphasized.

Expanded Course Description

This course introduces the student to the anatomy of the central nervous system. The course covers the various structures in the central nervous system and discusses clinical correlates for each structure. Motor, sensory, learning, and memory systems are covered, as are reflexes/balance and nourishment of the CNS.

The following is a sample of the structures covered:

- Histophysiology
- Spinal Cord including major sensory and motor pathways
- Medulla
- Pons
- Midbrain
- Basal nuclei
- Cerebellum
- Cerebral cortex
- Hypothalamus
- Limbic system
- Thalamus

- Cerebral vasculature
- Cerebral spinal fluid and the meninges

The course covers the material both textually and pictorially with figures, clinical photographs and MRI images.

Course Organization

The content of the course will be delivered in person, twice a week on campus. The material will be presented using a combination of lecture and collaborative clinical-case discussion/ reasoning activities. Students are strongly encouraged to read the required reading prior to class to make best use of the instructional time.

Lecture presentation slides are typically posted prior to the lecture. Barring technical issues, the lecture portion of class will be recorded whenever possible and posted to eClass the following day. Lecture slides and audio recordings are designed to supplement, not replace, lecture attendance

Additional materials are provided on the course website to help students learn the anatomical structures and reinforce important concepts. Completion of this material is optional.

Health and Safety Information

In this course, all university community members must comply with York's health and safety protocols, found on the [Better Together](#) website. All are strongly encouraged to:

- wear masks while indoors on campus;
- self-screen using the [YU Screen](#) tool prior to coming to campus for any in-person activities; and
- **NOT** attend in-person activities at any of York's campuses/locations if feeling unwell or if you answer yes to any of the screening questions.

Course Text / Readings

The following text is the required book for the course:

Patestas, M & Gartner, L.P. (2016) A Textbook of Neuroanatomy. (2 ed) Hoboken, NJ: John Wiley & Sons Inc.

You may purchase access to an e-book version of this text via the eClass website.

Technical Requirements for the Course

If we are required to change to remote modes of delivery for any reason, class will proceed using eClass and Zoom. Therefore, a computer or smart device with a camera and microphone is required to complete the course. Additional information will be provided, if needed.

Communication

Please consult with eClass (course announcements), Key Words and Concepts (KWC) lists and the Course Outline prior to e-mailing the Course Director. E-mails about information which has already been made available via eClass and/or the Course Outline will not be responded to.

E-mail is best reserved for queries which require urgent, but relatively straightforward, responses or queries of a personal nature. If your question requires a lengthy answer, it is better to make an appointment, using the scheduler on the eClass website, to meet with one of the instructional staff.

If you do decide to send an e-mail, before you press send, please check that your e-mail:

- (1) is coherent and professional. (Avoid text messaging terms, inappropriate language, emoticons, and poor spelling, punctuation, and grammar.)
- (2) the information "KINE 3650" is in the subject header
- (3) You have signed your e-mail with your name and/or student number.

Copyright Information

*These course materials are designed for use as part of the HH/KINE 3650 course at York University and are the intellectual property of the instructors unless otherwise stated. **Third party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this material for distribution (e.g., uploading material to a commercial third-party website) may lead to a violation of Copyright law.*** The buying and selling of any course material (including lecture slides, evaluation items, etc.) may constitute an infringement of intellectual property rights and/or a breach of Academic Honesty. Additional information on Student Rights and Responsibilities can be found at [here](#).

Evaluation

The estimated workload for this course is approximately 8-9 hours per week. Three of these hours occur in the classroom. It is strongly encouraged that you spend time every week working on the material because it becomes overwhelming to attempt to learn it the day before the exam. You should plan to attend every class and engage with the activities on the course website.

You are expected to know the material listed in the Key Words and Concepts list provided for each topic. These are located in each topic folder on the course website. In addition, there are practice questions for each topic.

Final Grade:

The final grade for the course will be based on the following items weighted as indicated:*

- On-line Mastery Quiz (best 10): 10%
- Class Test 1: 20%
- Class Test 2: 20%
- Class Test 3: 20%
- Cumulative Final Examination: 30%

* Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles

There will be three class tests, and one final examination. The first two are scheduled in class time. The third test and the Final cumulative exam will occur in the the Final Exam period time slot assigned by the Registrar's Office. Questions will be drawn from weekly lecture material and the relevant textbook chapters, with the greatest focus on content presented in class and overlapping with the readings. The format of the questions will include multiple choice, fill in the blank, matching, short answer, label the diagrams, and a clinical case study. The class tests will not be cumulative. The final examination will cover material from the entire course.

In addition, there will be a weekly Mastery Quiz covering the material for that week. The questions in the Mastery Quiz are the same as the practice questions, but timed. Scores on the best 10 quizzes will count. There will be no extensions on the closing date/time on these quizzes for any reason.

An unofficial list of grades will be posted on the course website as soon as they become available. Please check the course website rather than persistently contacting the teaching team to find out if they are available.

Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.)
(For a full description of York grading system see the York University Undergraduate Calendar

Students may take a limited number of courses for degree credit on an ungraded (pass/fail) basis. For full information on this option see Alternative Grading Option in the Faculty of Health section of the Undergraduate Calendar

Missed Tests: Students with a documented reason for missing a course test, such as illness, compassionate grounds, etc., which is confirmed by supporting documentation* may request accommodation from the Course Instructor. A make-up test will be provided approximately 10 days after the missed exam. Further extensions or accommodation would have to be discussed with the Course Director in the first instance and may require students to submit a formal petition to the Faculty of Health.

*Official Documentation.

Documentation must be provided by a registered clinical psychologist, psychiatrist, or medical doctor indicating that you were indeed unable to attend on the specific date of the examination because of your specific problem.

Accommodations: York University shall make reasonable and appropriate accommodations and adaptations in order to promote the ability of students with disabilities to fulfill the academic requirements of their programs. The nature and extent of accommodations shall be consistent with and supportive of the integrity of the curriculum and of the academic standards of programs or courses. Provided that students have given sufficient notice about their accommodation needs, instructors shall take reasonable steps to accommodate these needs in a manner consistent with the guidelines established hereunder.

If any student does require unusual accommodations to access this course, beyond taking exams in the alternate exams centre extra time etc., they are asked to contact the course director (H.Jordan@yorku.ca) and arrange an appointment to meet briefly to discuss any necessary arrangements. Students will need to produce a letter of accommodation from Student Accessibility Services.

IMPORTANT COURSE INFORMATION FOR STUDENTS

All participants in the course, teaching staff and students, will conduct themselves in a thoughtful and sensitive manner. Correct scientific terminology will be the lingua franca in the classroom.

This is an undergraduate course, not the culmination of a clinical neurology degree! Even though we will discuss many issues involving the relationship between the brain and behaviour, you will not be in a position to "diagnose" the problems of another person (including **yourself**). If the material in this course does evoke uneasiness for you, perhaps because you or a family member has gone through a related experience, please feel free to contact the course director confidentially via phone or e-mail or access the resources of Student Counselling and Development (N110 Bennett Centre for Student Services; 416-736-5297).

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports,

Initiatives, Documents) -

<https://secretariat.info.yorku.ca/files/CourseInformationForStudentsAugust2012-.pdf>

- Senate Policy on Academic Honesty and the Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation
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Please refrain from talking to others or making audible comments during class lectures or while another student is responding. If it is necessary to make noise, please leave the room first. Please place your cell phone and other electronic equipment in silent mode during class.

Cheating is unacceptable on this course and any student who participates in this activity can expect to be referred to the appropriate disciplinary authority for their first offence. If you are unclear what does and does not constitute cheating please refer to the Academic Integrity web site (<http://www.yorku.ca/academicintegrity>) and read the section 'For Students'. If you have not completed the Academic Integrity Tutorial which is hosted there, then I would urge you to do so.

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, Documents): http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm

- York's Academic Honesty Policy and Procedures/Academic Integrity Website
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- Religious Observance Accommodation

Tentative Class Schedule

Date	Topic(s)	Relevant Section of Petestas & Gartner
Sep 8	Introduction to the Nervous System	Course Outline and Chapter 1
Sep 13	Gross Topography and Implications of the Development of the Nervous System	Chapter 6
Sep 15	Histophysiology of the Nervous System	Chapter 3
Sep 20 th	Spinal Cord and Spinal Reflexes	Chapters 5 and 11
Sep 22 nd	Ascending (sensory) Pathways	Chapter 12
Sep 27 th	Descending (motor) pathways	Chapter 13
Sep 29 th	Name/Functions of the Cranial Nerves Introduction to the Arterial Supply of the CNS	Table 17.4 Name and Function
Oct 4 th	Catch-up and Q&A	
Oct 6th	Class Test 1	Introduction – Cranial Nerves
Oct 11 th	Reading Week	
Oct 13 th	Reading Week	
Oct 18 th	Surface Anatomy of the Brainstem	Brainstem section of Chapter 6
Oct 20 th	Medulla	Medulla section of Chapter 7
Oct 25	Pons	Pons section of Chapter 7
Oct 27	Midbrain	Midbrain section of Chapter 7
Nov 1 st	Basal Nuclei	Chapter 14

Nov 3rd	Cerebellum	Chapter 15
Nov 8th	Catch-up and Q & A	
Nov 10th	Class Test 2	Brain stem -> Cerebellum
Nov 15th	Reticular Formation	Chapter 16
Nov 17th	Limbic System and Olfactory System	Chapter 21 and 22
Nov 22nd	Hypothalamus	Chapter 23
Nov 24th	Thalamus	Chapters 24
Nov 29th	Sensory Systems	Chapters 19 and 20
Dec 2nd	Cerebral Cortex	Chapter 25
Dec 6th	Q & A and Catch-up	
TBA (Finals Period)	Class Test 3 and Final Exam	Everything!

- Last date to enroll without permission of course instructor: 20th Sept
- Last date to enroll with permission of course instructor: 4th Oct
- Last date to drop courses without receiving a grade: 11th Nov

Calumet and Stong Colleges' Student Success Programming:

[Calumet](#) and [Stong](#) Colleges aim to support the success of Faculty of Health students through a variety of **free programs** throughout their university career:

- [Orientation](#) helps new students transition into university, discover campus resources, and establish social and academic networks.
- [Peer Mentoring](#) connects well-trained upper-year students with first year and transfer students to help them transition into university.
- [Course Representative Program](#) supports the academic success and resourcefulness of students in core program courses through in-class announcements.
- [Peer-Assisted Study Sessions \(PASS\)](#) involve upper-level academically successful and well-trained students who facilitate study sessions in courses that are historically challenging.
- [Peer Tutoring](#) offers one-on-one academic support by well-trained Peer Tutors.
- Please connect with your Course Director about any specific academic resources for this class.
- Calumet and Stong Colleges also support students' [Health & Wellness](#), [leadership and professional skills development](#), [student/community engagement and wellbeing](#), [Career Exploration](#), [Indigenous Circle](#), [awards and recognition](#), and [provide opportunities to students to work or volunteer](#).
- For additional resources/information about Calumet and Stong Colleges' Student Success Programs, please consult our websites ([Calumet College](#); [Stong College](#)), email scchelp@yorku.ca, and/or follow us on Instagram ([Calumet College](#); [Stong College](#)), Facebook ([Calumet College](#); [Stong College](#)) and [LinkedIn](#).
- Are you receiving our weekly email (Subject: "Calumet and Stong Colleges - Upcoming events")? If not, please check your Inbox and Junk folders, and if it's not there then please contact ccscadm@yorku.ca, and request to be added to the listserv. Also, make sure to add your 'preferred email' to your [Passport York personal profile](#) to make sure you receive important news and information.