1 Course Details

1.1 Calendar Description

The main objective of the course is to understand the functional organization of the mammalian nervous system. It includes a review of the major cell types found in the nervous system and an overview of the basic physiological principles of brain function followed by a detailed three dimensional and histological examination of the mammalian brain and spinal cord. Emphasis is placed on understanding the relationship between anatomy, physiology and behaviour.

Pre-Requisite(s): 1 of BIOM*3200, HK*3810, HK*3940, NEUR*2000, PHYS*2030, PSYC*2410, ZOO*3200, ZOO*3600

Restriction(s): This is a Priority Access Course. Enrolment may be restricted to particular programs or specializations or semester levels during certain periods. Please see the department of Biomedical Sciences website for more information.

1.2 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

1.3 Final Exam

Final exam date is Dec 13th from 11:30 - 1:30pm. Exam location is to be determined and may be subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Course Co-ordinator: Tarek Saleh
Email: tsaleh@uoguelph.ca
Telephone: +1-519-824-4120 x54700
Office: OVCE 2633
3 Learning Resources

3.1 Recommended Resource(s)

Clinical Neuroanatomy & Neuroscience, 7th Edition (Textbook)
ISBN: 9780702058325

Essentials of the Human Brain (Textbook)
ISBN: 9780323045704

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:
1. Identify major landmarks of the central nervous system and correlate these landmarks with function
2. Describe the basic structural and morphological stages of the development of the central nervous system
3. Integrate structure and function of the nervous system to explain physiological and behavioural responses to external and external stimuli
4. Effectively communicate scientific ideas by constructing and giving a presentation based on a nervous system disease or pathology

5 Teaching and Learning Activities

5.1 Lecture

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Topic(s): Introduction to Neuroanatomy/Cells of the NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Topic(s): Action Potentials &amp; the Synapse/Intro to Case Studies</td>
</tr>
<tr>
<td>Week 2</td>
<td>Topic(s): Embryology of the CNS</td>
</tr>
<tr>
<td>Week 2</td>
<td>Topic(s): Brain Topography &amp; the Meninges/Case Studies (flow chart)</td>
</tr>
<tr>
<td>Week 3</td>
<td>Topic(s): Ventricles, CSF &amp; Blood Supply</td>
</tr>
<tr>
<td>Week 3</td>
<td>Topic(s): Spinal Cord &amp; Spinal Tracts</td>
</tr>
<tr>
<td>Week 4</td>
<td>Topic(s): Cranial Nerves I</td>
</tr>
<tr>
<td>Week</td>
<td>Topic(s)</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>Cranial Nerves II</td>
</tr>
<tr>
<td>5</td>
<td>Term test #1 (in-class). Covers lectures 1-8</td>
</tr>
<tr>
<td>6</td>
<td>Human Anatomy Lab outreach tour</td>
</tr>
<tr>
<td>6</td>
<td>Organization of the brainstem</td>
</tr>
<tr>
<td>7</td>
<td>The Cerebral Cortex</td>
</tr>
<tr>
<td>7</td>
<td>The Cerebellum</td>
</tr>
<tr>
<td>8</td>
<td>Basal Ganglia I</td>
</tr>
<tr>
<td>8</td>
<td>Thalamus &amp; Hypothalamus</td>
</tr>
<tr>
<td>9</td>
<td>Term test #2 (in-class). Covers lectures 9-13</td>
</tr>
<tr>
<td>9</td>
<td>Hippocampus &amp; Amygdala</td>
</tr>
<tr>
<td>10</td>
<td>Case Studies 1, 2, 3, 4</td>
</tr>
<tr>
<td>10</td>
<td>Case Studies 5, 6, 7, 8</td>
</tr>
<tr>
<td>11</td>
<td>Case Studies 9, 10, 11, 12</td>
</tr>
<tr>
<td>11</td>
<td>Case Studies 13, 14, 15, 16</td>
</tr>
<tr>
<td>12</td>
<td>Case Studies 17, 18, 19, 20</td>
</tr>
</tbody>
</table>
Week 12

Topic(s): Review Class

Week 13

Topic(s): Final exam (date and location tba; check CourseLink site). Covers lectures 1-14

6 Assessments

6.1 Assessment Details

Test #1 (15%)
- Date: Week 5
- in class (8:30-9:50am)

Test #2 (15%)
- Date: Week 9
- in-class (8:30-9:50am)

Case Study (20%)
- Symposia throughout the semester

Participation (15%)
- Assessed throughout the term.

Participation will be graded throughout the semester the following way: Completion of case study peer reviews: 20 @ 0.5% each

Attendance at human anatomy lab: 5%

Final exam (35%)
- Date: December 13th, TBA
  - 11:30 am -1:30 pm

- Comprehensive covering lectures 1-14

7 Course Statements

7.1 Term Tests & Final Exam

The term tests and final exam will consist of a combination of multiple choice, definitions, diagram labeling, and short answer questions. The term tests are NOT
cumulative, but the final exam will be cumulative, covering all lectures (1-14) presented up to the final exam date.

The term tests are scheduled inside of class time (1 hr and 20 mins).

### 7.2 Case Studies

Case studies will be presented in class throughout the second half of the course. Students will be randomly assigned into groups of 4-5 students and given a patient clinical diagnosis. Groups will work together to construct a case study around a patient and present this diagnosis to the class. Within the group presentation, students should address normal anatomy and functioning of pertinent nervous system structures and how this has been altered in the patient using a flow chart. See the course outline for the case study schedule, and CourseLink for your Group assignment. Presentations will be evaluated by the course instructor and by peer evaluation.

### 7.3 Participation

**Human Anatomy Visit**

Students will visit the Human Anatomy Lab in the OVC. Students will visit several stations that contain specimens pertaining to topics that have been discussed in the course. Human Anatomy Volunteers will discuss the specimens and students will have the opportunity to ask questions and visualize structures such as the brain, spinal cord, cranial nerves, and blood supply.

### 7.4 Assignment Submission & Late Policy

Students are expected to complete their coursework on time. Any late submissions will result in a late penalty of 20% per day (within 24 hours) with a mark of zero for assignments handed in more than 5 days (120 hours) after the due date.

### 7.5 Attendance/Classroom Etiquette

Students are expected to come to class on time and turn cell phones to vibrate/silent so as to not disrupt the lecture and fellow students. Laptop computers are permitted in the classroom; however, research has shown that these devices can be disruptive to the classroom environment if students are not engaging in course-related activities such as note taking. Please be considerate of your fellow peers and use laptops for course-related activities only while in the classroom. If a student is using a laptop for unrelated activities such as social media, emailing, or texting and it is evident that fellow students are being disrupted, the instructor reserves the right to ask the student to leave the classroom.

### 7.6 CourseLink

Will be used extensively throughout BIOM*3000. Please visit the site often to make sure you are up-to-date with any changes.

- **Lectures**: All lecture slides and other important course materials will be posted under the
“Content” tab.

- **Newsfeed**: Any last minute changes and general announcements will be posted within the Newsfeed.
- **Discussion Boards**: These forums allow students to ask questions and discuss what is being learned in class. Please direct all course content-related questions to the appropriate forum. Chances are that at least one other student has the same question too!

### 7.7 Remark Policy

Requests for re-evaluation of a *term test or presentation* must be made, in writing, to the course instructor within one week of return of the term test or presentation evaluation. Only tests that are written in pen will be considered for re-marking. All requests must include appropriate reasoning for why the student deserves additional marks. **Please be aware that an approval for a remark will result in the whole test or the whole presentation being remarked.** This may result in an increase, decrease, or no change in the original mark of the term test or presentation.

### 7.8 Religious Observance

Information about the University of Guelph’s policy on academic accommodation of religious obligations can be found online. [http://www.uoguelph.ca/registrar/calendars/undergraduate/current](http://www.uoguelph.ca/registrar/calendars/undergraduate/current)

### 7.9 Academic Consideration for Missed Tests/Assignments

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise your program counselor or the course instructor in writing, with your name, id#, and e-mail contact, as soon as possible. Please be aware that other exams, vacation, or work schedules are not valid excuses for missing coursework since you can plan ahead and make alternate arrangements if necessary.

If the final exam is missed, application for a deferred exam must be made through a program counselor and The Office of the Registrar as outlined in the Academic Consideration and Appeals section of the Undergraduate Calendar.

See the undergraduate calendar for information on regulations and procedures for Academic Consideration. [https://www.uoguelph.ca/registrar/calendars/undergraduate/current/](https://www.uoguelph.ca/registrar/calendars/undergraduate/current/)
8 University Statements

8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The regulations and procedures for Academic Consideration are detailed in the Undergraduate Calendar.

8.3 Drop Date

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for Dropping Courses are available in the Undergraduate Calendar.

8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance, and not later than the 40th Class Day.

More information: www.uoguelph.ca/sas

8.6 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.

8.7 Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph’s procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.