
Psychology/Neuroscience 531**Nervous System Development****Fall 2014**

| | | | |
|----------------------|-------------------|---------------------------|---------------|
| Instructor: | Richard Dyck | Lecture Location: | SA121 |
| Phone: | 403-220-4206 | Lecture Days/Time: | W 16:00-18:50 |
| Email: | rdyck@ucalgary.ca | | |
| Office: | A028 | | |
| Office Hours: | By appointment | | |

Course Description and Goals

The function of the human brain is mediated by billions of cells and trillions of connections. In order to understand human brain function we need to understand how these processes arise and the ways in which they change throughout a lifetime. The goal of this course is to provide a contemporary overview of CNS development from biological, behavioural and clinical perspectives.

Prerequisites

Psyc 475 – Behavioural Pharmacology

Required Text

The required text for the course is: Sanes, D.H., Reh, T.A., and Harris, W.A. (2012) Development of the Nervous System, Academic Press. We will be covering a majority of the textbook. Additional reading materials may be drawn from a collection of sources, including classic journal articles in the field, more recent reports and review papers.

Evaluation

The final course grade will be based on:

- 1) Midterm 1 examination: 20%
 - a. 60 minutes in class on Oct 15
 - b. Multiple choice, short answer and Long answer/essay questions
 - c. Examines information covered in Chapters 1-3, in class, and any additional readings
- 2) Midterm 2 examination: 20%
 - a. 60 minutes in class on Nov 12
 - b. Multiple choice, short answer and Long answer/essay questions
 - c. Examines information covered in Chapters 4-6, in class, and any additional readings since the midterm 1 examination.
- 3) Final examination: 20%
 - a. 75 minutes – registrar scheduled
 - b. Multiple choice, short answer and Long answer/essay questions

- c. Examines information covered in Chapters 7-9, information covered in class, and any additional readings since the midterm 2 examination.
- 4) In-Class Presentation: 20%
 - a. Topic must be directly related to one of the chapters covered, to date
 - b. Group presentation (3 or 4 persons/group)
 - c. 30 minutes/group, maximum, including time for questions
 - d. Grade is based on:
 - i. Content (10%)
 - ii. Presentation (4%)
 - iii. Participation (6%)
- 5) Term Paper: 20%
 - a. On any topic dealing with normal or abnormal nervous system development.
 - b. **Maximum** of 20 double-spaced pages, not including references.
 - c. 12 point Times font (about 15 characters/inch).
 - d. The paper topic, in the form of an outline, must be approved by instructor no later than 4:00 pm November 7th.
 - i. **Reduction of final paper grade by 5% for each 24h interval that the paper outline is late.**
 - e. Paper will be graded on two criteria: **presentation (4%)**, including grammar, organization, clarity of writing, and other skills pertaining to written English, and **content (16%)**, including the accuracy of information presented, etc.
 - f. Paper to be handed in or e-mailed by 4:00pm December 8th, 2014.
 - i. **Reduction of 10% for each 24h interval that the paper is late.**

Department of Psychology Criteria for Letter Grades

Psychology professors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance.* An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance.* Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student's thorough knowledge of subject matter.

B Range: *Good Performance.* Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance.* Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards.* Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and

content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met.* Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

Grading Scale

| | | | | | | | |
|----|---------|----|--------|----|--------|----|--------|
| A+ | 96-100% | B+ | 80-84% | C+ | 67-71% | D+ | 54-58% |
| A | 90-95% | B | 76-79% | C | 63-66% | D | 50-53% |
| A- | 85-89% | B- | 72-75% | C- | 59-62% | F | 0-49% |

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades.

In this course there will be no rounding up of final grades, especially in light of the opportunities students have to increase their final grade via research participation.

Tentative Lecture Schedule

September

- 10 Introduction; Chapter 1 – Neural Induction
- 17 Molecular/Cell biology review/Neuroanatomy review
- 24 Chapter 2 – Polarity and Regionalization

October

- 1 Chapter 3 – Birth and Migration
- 8 Student Presentations 1
- 15 Exam 1; Chapter 4 – Determination and Differentiation
- 22 Chapter 5 – Axon Growth and Guidance
- 29 Chapter 6 – Target Selection

November

- 5 Student Presentations 2
- 12 Exam 2; Chapter 7 – Survival and Growth
- 19 Chapter 8 - Synapse Formation and Function
- 26 Chapter 9 – Refinement of Synaptic Connections

December

- 3 Student Presentations 3

Reappraisal of Grades

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class; no reappraisal of term work is permitted after the 15 days. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

Academic Accommodation

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

Absence From A Test/Exam

Makeup tests/exams are NOT an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances (documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam.

Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered except under exceptional circumstances. Students are advised to wait until the final examination schedule is posted before making any travel arrangements.

Freedom of Information and Protection of Privacy (FOIP) Act

The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or via the Department Office (Admin 275), or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names with their grades, UCIDs, or other FOIP-sensitive information.

Course Credits for Research Participation (Max 2% of final grade)

Students in most psychology courses are eligible to participate in Departmentally approved research and earn credits toward their final grades. **A maximum of two credits (2%) per course, including this course, may be applied to the student's final grade. Students earn 0.5% (0.5 credits) for each full 30 minutes of participation.** The demand for timeslots may exceed the supply in a given term. Thus, students are not guaranteed that there will be enough studies available to them to meet their credit requirements. Students should seek studies early in the term and should frequently check for open timeslots. Students can create an account and participate in Departmentally approved research studies at <http://ucalgary.sona-systems.com>. The last day to participate in studies and to assign or reassign earned credits to courses is **Dec 5, 2014**

Evacuation Assembly Point

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at <http://www.ucalgary.ca/emergencyplan/assemblypoints>
Please check this website and note the nearest assembly point for this course.

Student Organizations

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 170 and may be contacted at 403-220-5567.

Student Union VP Academic: Phone: 403-220-3911

suypaca@ucalgary.ca

Student Union Faculty Rep.:

Phone: 403-220-3913

socialscirep@su.ucalgary.ca

Safewalk

The safewalk program provides volunteers to walk students safely to their destination anywhere on campus. This service is free and available 24 hrs/day, 365 days a year.
Call 403-220-5333.

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **September 19, 2014**. Last day for registration/change of registration is **September 22, 2014**. The last day to withdraw from this course is **December 5, 2014**.