

Hormones, Neurochemistry, and Behaviour

Psychology, Neuroscience & Behaviour 4Y03: January - April, 2010

Instructor Dr. Denys deCatanzaro, Professor, Office in PC314
Office hours: to be announced - *otherwise by appointment only please*
Telephone: 905-525-9140, extension 23014
e-mail: decatanz@mcmaster.ca

TAs Joelle Thorpe, Ph.D. student, e-mail: thorpejb@mcmaster.ca
Adam Guzzo, Ph.D. student, e-mail: aguzzo@comcast.net

Background

This is a senior, high-level course that will demand active student participation. Students should be in a senior year of an Honours program with a solid background in Biology as well as Psychology.

Course Objectives

We will examine hormonal and neurochemical processes that interact with behaviour in vertebrates, with especial focus on mammalian processes that shed light on human psychology.

Textbook and Readings

Nelson, R.J. (2005). *An Introduction to Behavioral Endocrinology (3rd edition)*.
Sunderland MA: Sinauer Associates.

Assigned readings from this textbook are given on the next page.
Additional material will be made available on-line.

Evaluation

- 1) **Midterm Test #1:** This is worth 25% of the final grade, and will be held in the normal class hour on Thursday February 11th. It covers all readings and lectures prior to that date.
- 2) **Essay & Presentation:** Each student should prepare an essay, on a unique specialized topic, structured and pre-approved as described in a separate handout. Each student is expected to make a brief oral presentation during one of the tutorials on their topic and to submit a full written essay. This component is worth 35% of the final grade, with 10% for the oral presentation and 25% for the written paper. The deadline for the written essay is March 25th, but it may be submitted at any time before that date.
- 3) **Class and Tutorial Participation:** Students are encouraged to participate actively in classes and especially in tutorials. Attendance at tutorials will be recorded. There may be a brief (one-question) quiz at the beginning of each tutorial. The tutorial leader's (and instructor's) appraisal of individual participation (including attendance) will comprise 10% of the final grade.
- 4) **Final Examination:** This will be scheduled by the Registrar's Office, and is worth 30% of the final grade. This will cover the whole course, with some extra emphasis on material since the midterm test.

Evaluation (continued)

Students are responsible for both lecture material and assigned readings, with roughly equal weighting. The midterm test can only be written at the time indicated, so plan to attend. Normally, there can be no make-up tests or special sessions for any student. Students with valid reasons for missing the midterm test or any other component of evaluation must consult the Dean of Studies office for their faculty (e.g. Science or Social Science). If (and only if) that office has approved the reasons for the absence, grades will be proportionately reweighted, increasing the relative contribution of the other components (e.g., if the midterm test is missed, the weighting will be: oral presentation, 13.33%; essay, 33.33%; tutorial participation 13.33%; final exam, 40%). Essay deadline extensions will not be granted unless there are legitimate reasons validated by the Dean of Studies office; otherwise, a penalty for lateness will be applied at the instructor's discretion. The test and examination will consist of questions in diverse formats, including true-false, multiple choice, short answer, and essay questions, at the instructor's discretion. Grades will be assigned according to the following convention: 90-100% = A+, 85-89% = A, 80-84% = A-, 77-79% = B+, 73-76% = B, 70-72% = B-, 67-69% = C+, 63-66% = C, 60-62% = C-, 57-59% = D+, 53-56% = D, 50-52% = D-, 0-49% = F. Appeal procedures for the test and essay are strictly structured, as will be explained by the instructor.

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

Attention is drawn to the Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty. Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at <http://www.mcmaster.ca/univsec/policy/AcademicIntegrity.pdf>.

Schedule of Lecture Topics and Readings (*Lecture dates are approximate*)

Friday classes from January 29th through March 26th will be tutorial sessions. There will be discussion and student presentations during these sessions as will be announced in class.

January 5 - 28: *Introduction. Hormonal and neurochemical systems. Neuroendocrine anatomy. Comparative perspective and evolution. Nutrition, metabolism, receptors, excretion. Chapters 1, 2*

February 2 - 9: *Sex differences and sexual differentiation. Chapters 3, 4*

February 11: MIDTERM TEST (Held in class)

February 23 - 25: *Male and female reproductive behaviour. Chapters 5, 6*

March 2 - 4: *Parental behaviour. Chapter 7*

March 9 - 16: *Affiliative and aggressive behaviour. Chapter 8*

March 18 - 25: *Homeostasis, biological rhythms, and stress. Chapters 9, 10, 11*

March 25: ESSAY DEADLINE

March 30 - April 1: *Hormones, learning, and memory. Chapter 12*

April 6 - 8: *Neurochemistry and mood. Psychonutrition. Chapter 13*

FINAL EXAMINATION SCHEDULED BY THE REGISTRAR