

**Physiological Psychology  
Psychology 261 – Winter 2006 Course Outline**

**Instructor:** James Danckert  
PAS 4040  
Ext. 7014  
Email: [jdanker@watarts.uwaterloo.ca](mailto:jdanker@watarts.uwaterloo.ca)

**Time:** Mondays, Wednesdays and Fridays 10:30 am – 11:20 am  
**Location:** MC 2066

**Teaching Assistants:**

Carol Broderick [carol.broderick@gmail.com](mailto:carol.broderick@gmail.com)

Brandon Vasquez [bvasquez@watarts.uwaterloo.ca](mailto:bvasquez@watarts.uwaterloo.ca)

Office hours to be announced in the first class.

**Course Web Page**

[http://www.arts.uwaterloo.ca/~jdanker/phys\\_psych/261\\_winter2004/261\\_index.htm](http://www.arts.uwaterloo.ca/~jdanker/phys_psych/261_winter2004/261_index.htm)

Lecture slides are available in powerpoint (large files to download), html (to read on-line) and in pdf notes form (these are also large but can be downloaded prior to class). Note that these files are from a previous year that I taught 261. There may well be minor changes to them that will not appear on the web but they should be sufficient in most instances for taking notes in class.

**Course Text**

Neil R Carlson Physiology of Behaviour, 8<sup>th</sup> Edition, Pearson, Allyn & Bacon, 2004

**Course Description and Aims**

This course aims to introduce the student to the fundamental physiological processes underlying brain – behaviour relationships in humans. The course will cover cellular, neurochemical and neural network levels of analysis for human behaviour. Topics covered include: evolution, neuroanatomy, neurodevelopment, methods in neuroscience, sensory processing, motor control, vision, memory, neurological and psychiatric disorders.

**Assessment**

Lecture material and the course text will be examinable. Material will be examined in three sections with exams taking place in class (exam topics will be non-cumulative). Each section's exam will be worth 25%. There will be three crossword puzzles handed out during the term meant only as study aids. Solutions to the crosswords will be published on the web a week after they have been given out in class. Completing the crosswords as best you can, will earn you 10% (the success of your completion won't be graded). Crosswords should be handed in prior to the solution being posted on the web. The final 15% of the grade will come from an assignment described below. The due date for the assignment will be **MARCH 17<sup>th</sup>**.

## Assignment

In groups of no fewer than 5 and no greater than 7 students, you will be asked to create an advertisement “selling” something related to physiological psychology. This could be a drug, a hospital or specific treatment one could receive in a hospital, a rehabilitation program, a drug for enhancing normal function (e.g., a memory enhancer) or anything else you can conjure up so long as it relates to brain-behaviour relationships. The advertisement does not need to be a reality but must be based on plausible relationships and facts learned in class. That is, one could advertise a memory enhancer that doesn’t currently exist but this fiction would need to relate to facts that we DO know about memory – which neural structures would your enhancer act upon? Which neurotransmitters? The advertisement should be mostly visual with only a small amount of supporting text totalling (no more than 200 words). An example from the magazine *Adbusters* is provided below (there is no need for students to infuse their ad with this much sarcasm but if the mood takes you...).



This example also lacks any supporting text of the kind I am looking for – something that shows what you have learned about the brain-behaviour relationships relevant to your particular ad. You can see examples of ads made previously by going to the web site below but note that in this instance it was not a group assignment but an individual assignment.

[http://www.arts.uwaterloo.ca/~jdancker/phys\\_psych/261\\_winter2004/261\\_assessment.htm](http://www.arts.uwaterloo.ca/~jdancker/phys_psych/261_winter2004/261_assessment.htm)

In addition to submitting a hard copy of your ad the student group will give a 3 minute presentation of their ‘ad’ to the class on March 17<sup>th</sup> (this will spill over to the next class if need be). You can nominate one spokesperson or give the presentation as a group. The hard copy of the ad need only be the size of an A4 sheet but to present it to such a large class you may want to consider using Powerpoint or making a larger version of your ad so the whole class can see it.

Each group will have to submit a title for their ad and the names and student numbers of the students involved to me the week prior to March 17<sup>th</sup> – I will need this to assist me in grading the presentations.

**Lecture Schedule (subject to changes)**

**Section 1**

Topic 1	Neuroanatomy and neurophysiology	CH 1 – 3
Topic 2	Evolution and the brain	no readings
Topic 3	Methods in Neuroscience	CH 5

**\*\*\* Jan 23<sup>rd</sup> Section 1 exam \*\*\***

**Section 2**

Topic 4	Psychopharmacology and Drugs	CH 4 & 18
Topic 5	Neurodevelopment and developmental disorders (no readings)	
Topic 6	Vision	CH 6
Topic 7	Audition, Somatosensation, Olfaction and Gustation	CH 7

**\*\*\* Feb 17<sup>th</sup> Section 2 exam \*\*\***

**Section 3**

Topic 8	Motor control and motor disorders	CH 8
Topic 9	Sleep	CH 9
Topic 10	Sex	CH 10
Topic 11	Memory and learning	CH 13
Topic 12	Psychiatric disorders and dementias	CH 16 & 17

**\*\*\* April 3<sup>rd</sup> Section 3 exam \*\*\***