

Motivation and Emotion

Psychology, Neuroscience & Behaviour 3M03: September - December, 2009

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Course Objectives

This course involves a discussion of the biological basis of motivation and emotion in humans and other mammals. The approach is strictly scientific, with focus on evolutionary, physiological, developmental, and social perspectives. We will begin with fundamental biological dimensions of motivation and emotion common to all mammals, and will move progressively to more distinctively human and social issues.

Textbook and Readings

- 1) deCatanaro, D.A. (1999). *Motivation and Emotion: Evolutionary, Physiological, Developmental, and Social Perspectives*. Upper Saddle River, NJ: Prentice Hall (Pearson).
 - 2) Additional required readings will be made available on the course website.
- Assigned readings from the textbook are given on the next page.

Evaluation

- 1) **Midterm Test #1:** This is worth 25% of the final grade, and will be held in the normal class hour on October 9th. It covers all readings and lectures prior to this date.
- 2) **Midterm Test #2:** This is worth 30% of the final grade, and will be held in the normal class hour on November 13th. It covers all new material since that covered by Test #1.
- 3) **Assignment:** The requirements for this assignment, worth 10% of the final grade, are described in a separate handout. You will prepare for this by reading in the primary scientific literature on a specific topic in motivation and emotion, as described in that handout. On November 25th, you will answer a series of questions concerning these readings in class.
- 4) **Final Examination:** This will be scheduled by the Registrar's Office and is worth 35% of the final grade. It will cover the whole course, with some extra emphasis on material since midterm test #2.

Students are responsible for both lecture material and assigned readings, with roughly equal weighting. Midterm tests and the assignment questions can only be written at the times 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 a midterm test or the assignment 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 test #1 is missed, the weighting will be: test #2, 40%; assignment, 13.33%; exam, 46.67%). The tests and examination will consist of questions in diverse formats, including true-false, multiple choice, short answer, and essay questions, at the instructor's discretion. In the exceptional case in which a supplementary test or examination is written, it may be in a format that differs from that given during the normal sessions and may entirely consist of essay questions. 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 grading of the midterm tests are strictly structured and have a deadline approximately one week following the return of graded tests in class, 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 a test or 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 (<http://www.mcmaster.ca/univsec/policy/AcademicIntegrity.pdf>).

Schedule of Lecture Topics and Readings

- Sept. 11, 15: *Introduction and history*** Prescientific notions. Views from physiology, evolutionary biology, and experimental psychology. *Chapter 1*
- Sept. 16, 18: *General evolutionary perspective*** Survival and reproduction. Natural selection and inclusive fitness maximization. Darwin's view of emotions and body language. *Chapter 2*
- Sept. 22, 23: *Genetics, learning, and development*** Perspectives on individual differences in motivation and emotion, from behavioural genetics and development. *Chapter 3*
- Sept. 25 - 30: *General physiological perspective*** General structure of nervous and endocrine systems. Autonomic nervous system, peripheral endocrine systems, hypothalamus and pituitary, limbic system, ventricular system, neurochemical systems. *Chapter 4*
- Oct. 2 - 7: *Basic appetitive systems*** Foraging, thirst, hunger, and feeding. Homeostasis and growth. Specific appetites and food aversions. *Chapter 5*
- Oct. 9: MIDTERM TEST #1**
- Oct. 13 - 16: *Pain and fear*** Adaptive value and expression of pain and fear, escape and avoidance. Thermoregulation. Physiological substrates. *Chapter 6*
- Oct. 20 - 23: *Reproduction*** Reproductive strategies, competition, neurohormonal substrates of various forms of reproductive behaviour. *Chapter 7*
- Oct. 27, 28: *Arousal, stress, and relaxation*** The general adaptation syndrome. Sympathetic and parasympathetic nervous systems. The pituitary-adrenal system. Adaptive and maladaptive consequences of chronic stress. *Chapter 8*
- Oct. 30 - Nov. 4: *Aggression*** Various forms of threat and aggression. Dominance and subordination. Anger and frustration. Sex and species differences. Neuroendocrine substrates. *Chapter 9*
- Nov. 6 - 11: *Happiness, sadness, depression, and helplessness*** Elation and depression from biological and developmental perspectives. Helplessness and initiative. Limitations to self-preservation. *Chapter 10*
- Nov. 13: MIDTERM TEST #2**
- Nov. 17, 18: *Attachment and love*** Mother-child attachment. Familial love and peer bonding. Romantic vs. companionate love. *Chapter 11*
- Nov. 20, 24: *Learning and achievement*** Reinforcers and punishers, acquired goals, imitation, incentives, cognitive mediation, need to achieve. *Chapter 12*
- Nov. 25: ASSIGNMENT COMPLETION** (written in class)
- Nov. 27: *Conflicting motivation and emotion*** Concurrent emotions, hierarchies, conflict resolution. *Chapter 13*
- Dec. 1 - 4: *Social emotions*** Embarrassment, shame, guilt, and pride. *Chapter 14*
- FINAL EXAMINATION SCHEDULED BY THE REGISTRAR**