PSYCH 711/712
Introduction to Signal Detection Theory
Course Outline
Winter Term, 2012

1 Contact Information

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2 Course Information

Overview: Signal Detection Theory (SDT) is a formal framework for measuring sensitivity and bias in binary decision tasks. In other words, SDT is used to analyze performance in tasks which require a binary, yes/no, decision, and it has been applied successfully to a wide range of basic-science and applied problems. This course introduces the basic concepts of SDT and shows how to use them in several experimental contexts.

Meeting Times: Tuesday and Thursday (9:00-10:30, PC-204).


Grading: Grades will be based on take-home assignments (40%), class participation (10%), and a final exam (50%).

Missed Exams: It is the student’s responsibility to notify the instructor of the reasons for missing a test in a timely fashion. If you miss an exam, it is your responsibility to contact the the instructor as soon as possible and explain why you missed the exam. If you have a valid excuse, then you will be allowed to take a make-up exam at another time (usually one week following the original exam).

Academic Integrity: Students are responsible for demonstrating behaviour that is honest and ethical in their academic work, and are expected to be familiar with the University’s regulations regarding academic integrity (see section 6.1, Graduate Calendar 2011-12, pp. 45-46).
3 Take-home Assignments

Take-home assignments (a.k.a., homework) will be distributed at the end of Thursday’s class during Weeks 2-5. Assignments are due at the beginning of class on the following Tuesday.

4 Schedule of Lectures

The following schedule is only approximate: Dates for lectures, but not take-home assignments or the final exam, may be changed as we progress through the term.

- Week 1 (Feb 28 & March 1): Better decisions through science
  Reading: ESDT, Chapters 1 and 2; and Swets and Dawes 2000.

- Week 2 (March 6 & 8): The ROC curve
  Reading: ESDT, Chapter 3.

- Week 3 (March 13 & 15): Measures of sensitivity and bias
  Reading: ESDT, Chapter 4.

- Week 4 (March 20): Confidence ratings and forced-choice tasks
  Reading: ESDT, Chapters 5 and 6.

- Week 4 (March 22): Finite-state Models
  Reading: ESDT, Chapter 8 (sections 8.1-8.2); and Gescheider 1976, chapter 3, pp. 39-56.

- Week 5 (March 27 & 29): Detection and Identification
  Reading: ESDT, Chapter 7; and Haase et al. 1999.

- Week 6 (April 3 & 5): Likelihoods and Likelihood Ratios
  Reading: ESDT, Chapter 9.

- Final Exam (April 10)
  Note that April 10 is the first day of the final exam period. If you are proctoring a final exam on April 10, please contact the instructors as soon as possible so that we can arrange an alternate time for you to take the exam.

References

