1 Contact Information

Instructor: Patrick Bennett  
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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: Monday (9-11 AM, PC-316) (N.B. No class on March 14, 21, and April 11).


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

3 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. Academic integrity regulations can be found here:

http://academiccalendars.mcmaster.ca/content.php?catoid=4&navoid=188

4 Take-home Assignments & Exam

Take-home assignments (a.k.a., homework) will be distributed at the end of each Monday class held during weeks 2-8 and must be submitted to me later that week. Answers will be reviewed the
A take-home exam will be distributed on Monday, May 2 and must be handed in no later than 4 PM on Friday, May 6. (N.B. Arrangements will be made so students can drop off assignments and exam in the main Psychology office.)

5 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 29): Better decisions through science  
  Reading: ESDT, Chapters 1 and 2; and Swets and Dawes 2000.
- Week 2 (March 7; homework due 4:00 PM, March 11): The ROC curve  
  Reading: ESDT, Chapter 3.
- Week 3 (March 14): NO CLASS
- Week 4 (March 21): NO CLASS
- Week 5 (March 28; homework due 4:00 PM, April 1): Measures of sensitivity and bias  
  Reading: ESDT, Chapter 4.
- Week 6 (April 4; homework due 4:00 PM, April 8): Confidence ratings and forced-choice tasks  
  Reading: ESDT, Chapters 5 and 6.
- Week 7 (April 11): NO CLASS
- Week 8 (April 18; homework due 4:00 PM, April 22): Finite-state Models  
  Reading: ESDT, Chapter 8 (sections 8.1-8.2); and Gescheider 1976, chapter 3, pp. 39-56.
- Week 9 (April 25; homework due 4:00 PM, April 29): Detection and Identification  
  Reading: ESDT, Chapter 7; and Haase et al. 1999.
- Week 10 (May 2): In-class review & distribution of take-home exam  
  Take-home exam is due no later than 4:00 PM on May 6.

References

