

PSYC323: Laboratory in Attention

Fall session, 2016

Syllabus

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Class Time: Monday 11:30-1:00pm and Thursday 1:00-2:30pm
Class Location: Humphrey Hall 219

Learning Outcomes

- Develop an understanding of experimental methods for the study of human visual cognition.
- Be able to conduct a visual cognition experiment
- Be able to manage, statistically analyze, and interpret experimental data.
- Be able to research in depth an issue regarding visual cognition.
- Be able to effectively communicate research concepts within the field of visual cognition.

Course Format

Research Units:

- There will be three research units, each focusing on a particular topic in visual cognition.
- Each research unit will consist of four classes.
- Readings and reflection papers must be done prior to the first class of each research unit.
- During the first class, the professor will provide a lecture introducing the topic, the readings will be discussed, and we will determine an experiment to conduct.
- During the second class, data will be collected.
- During the third class, the results will be analyzed.
- During the fourth class, students will work on the writing of their lab reports.

Tutorials:

- There will be three tutorials (2 classes each), each focusing on a particular research tool used in visual cognition.

Research Proposal Poster:

- Four classes at the end of the term will be used to present your research proposals.
- Each student will provide a poster and prepare a 5 minute presentation describing their research proposal.
- Students and instructors will observe and evaluate your poster presentation and ask questions.

| Date | Topic |
|-----------------|--|
| Mon. Sept. 12 | Introduction to Visual Cognition |
| Thurs. Sept. 15 | Lecture/Discussion: Working Memory and Attention |
| Mon. Sept. 19 | Lab Day: Data Collection |
| Thurs. Sept. 22 | Lab Day: Data Analysis |
| Mon. Sept. 26 | Lab Day: Report Writing |
| Thurs. Sept. 29 | Data Management Tutorial |
| Mon. Oct. 3 | Data Management Tutorial |
| Thurs. Oct. 6 | Lecture/Discussion: Object-Based Attention |
| Mon. Oct 10 | Thanksgiving (no class) |
| Thurs. Oct. 13 | Lab Day: Data Collection |
| Mon. Oct. 17 | Lab Day: Data Analysis |
| Thurs. Oct. 20 | Lab Day: Report Writing |
| Mon. Oct. 24 | Signal Detection Tutorial |
| Thurs. Oct. 27 | Signal Detection Tutorial |
| Mon. Oct. 31 | Lecture/Discussion: Change Blindness |
| Thurs. Nov. 3 | Lab Day: Data Collection |
| Mon. Nov. 7 | Lab Day: Data Analysis |
| Thurs. Nov. 10 | Lab Day: Report Writing |
| Mon. Nov. 14 | Eye-Tracking Tutorial |
| Thurs. Nov. 17 | Eye-Tracking Tutorial |
| Mon. Nov. 21 | Presentations (Group 1) |
| Thurs. Nov. 24 | Presentations (Group 2) |
| Mon. Nov. 28 | Presentations (Group 3) |
| Thurs. Dec. 1 | Presentations (Group 4) |

Workload

Reflection Papers

- Reflection papers are designed to assess your understanding and critical thinking with respect to the material presented in each research topic's readings. At the end of each of 3 lectures (Sept. 15, Oct. 6, Oct. 31), one or two discussion questions will be presented that center around core theories, methodologies, or results.
- In a short paper, discuss each of these questions, critically evaluating the perspectives that can be taken on the issues. The papers will be marked with an overall mark (out of 10). Responses should be no longer than one page single-spaced.
- Reflection papers are due prior to the second class of each research unit.
 - Reflection paper #1: due Monday, Sept. 19
 - Reflection paper #2: due Thursday, October 13
 - Reflection paper #3: due Thursday, November 3

Lab Reports

- For each research unit, we will conduct an experiment.
- All data files will be collected, and you will analyze the data.
- For each research unit, you will complete and submit a research report (method, results, and discussion).
 - Lab report #1: due Thursday, Sept. 29
 - Lab report #2: due Monday, Oct. 24
 - Lab report #3: due Monday, Nov. 14

Tutorial Assignments

- After each tutorial section, a short assignment will be provided that tests your understanding of the research tool presented during that tutorial. These will be due at the end of that tutorial section.
 - Tutorial #1: due Monday, Oct. 3
 - Tutorial #2: due Thursday, Oct. 27
 - Tutorial #3: due Thursday, Nov. 17

Research Proposal Poster

- Each student will submit a research proposal poster.
- The research proposal posters will be presented to the class in a poster session.
- The content and execution of your presentation will be evaluated by the instructors and by your peers. Both the instructors' and the peer evaluations will be counted toward your presentation grade.

Evaluation

| | |
|--------------------------|---------------|
| Reflection Papers | 9% (3% each) |
| Lab Report 1 | 15% |
| Lab Report 2 | 18% |
| Lab Report 3 | 20% |
| Tutorial Assignments | 18% (6% each) |
| Research Proposal Poster | 20% |

Readings

There is no textbook. Readings will consist of articles (typically, review articles).

Grading Scheme

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

Queen's Official Grade Conversion Scale

| Grade | Numerical Course Average (Range) |
|--------------|---|
| A+ | 90-100 |
| A | 85-89 |
| A- | 80-84 |
| B+ | 77-79 |
| B | 73-76 |
| B- | 70-72 |
| C+ | 67-69 |
| C | 63-66 |
| C- | 60-62 |
| D+ | 57-59 |
| D | 53-56 |
| D- | 50-52 |
| F | 49 and below |

Academic Integrity

Academic integrity is constituted by the six core fundamental values of honesty, trust, fairness, respect, responsibility and courage (see <http://www.academicintegrity.org>). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities <http://www.queensu.ca/secretariat/policies/senate/report-principles-and-priorities>)

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1 <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1>), on the Arts and Science website (see <http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity>), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Disability Accommodations

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact Student Wellness Services (SWS) and register as early as possible. For more information, including important deadlines, please visit the Student Wellness website at:

<http://www.queensu.ca/studentwellness/accessibility-services/>

Readings

Working Memory and Attention:

Kiyonaga, A., & Egner, T. (2014). The working memory Stroop effect: When internal representations clash with external stimuli. *Psychological Science*, 25(8), 1619-1629.

Object-Based Attention:

Taylor, J.E., Rajsic, J., Pratt, J. (2016). Object-based selection is contingent on attentional control settings, *Attention, Perception, & Psychophysics*, 78, 988-995.

Change Blindness

<article to be added later>

Copyright of Course Material

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