

PSYC323: Laboratory in Attention Fall session, 2015

Syllabus

Instructors: Daryl Wilson
Office: Hum347
Email: daryl.wilson@queensu.ca
Contact: by email or appointment

TA: Philip Aucoin
Office: To Be Determined
Email: 14pma@queensu.ca
Office Hours: To Be Determined

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

Course Objectives

- Learn principles of experimental methods in human visual cognition, including experimental design, programming (Matlab), data management, and statistical analysis.
- This course combines lectures, discussions, and hands-on experimental exercises.
- There will be three research units with each requiring submission of a lab report. These units will allow you to conduct visual cognition experiments, and to improve your scientific writing.

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 near 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.

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. 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 first class of each research unit.
 - Reflection paper #1: **due Thursday, Sept. 17**
 - Reflection paper #2: **due Thursday, October 8**
 - Reflection paper #3: **due Monday, November 2**

Lab Reports

- For each 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, Oct. 1**
 - Lab report #2: **due Monday, Oct. 26**
 - Lab report #3: **due Monday, Nov. 16**

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. 5**
 - Tutorial #2: **due Thursday, Oct. 29**
 - Tutorial #3: **due Thursday, Nov. 19**

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 five core fundamental values of honesty, trust, fairness, respect and responsibility (see 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/senateandtrustees/principlespriorities.html>).

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 the Disability Services Office (DSO) and register as early as possible. For more information, including important deadlines, please visit the DSO website at: <http://www.queensu.ca/hcds/ds/>

Readings

Working Memory and Attention:

Downing, P.E. (2000). Interactions between visual working memory and selective attention. *Psychological Science, 11*, 467-473.

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:

Moore, C.M., Yantis, S. & Vaughan, B. (1998). Object-based visual selection: Evidence from perceptual completion. *Psychological Science, 9*, 104-110.

<2nd article to be added later>

Change Blindness

<1st article to be added later>

<2nd article to be added later>

Date	Topic
Mon. Sept. 14	Introduction to Visual Cognition
Thurs. Sept. 17	Lecture/Discussion: Working Memory and Attention
Mon. Sept. 21	Lab Day: Data Collection
Thurs. Sept. 24	Lab Day: Data Analysis
Mon. Sept. 28	Lab Day: Report Writing
Thurs. Oct. 1	Programing / Data Management Tutorial
Mon. Oct. 5	Programing / Data Management Tutorial
Thurs. Oct. 8	Lecture/Discussion: Object-Based Attention
Mon. Oct 12	Thanksgiving (no class)
Thurs. Oct. 15	Lab Day: Data Collection
Mon. Oct. 19	Lab Day: Data Analysis
Thurs. Oct. 22	Lab Day: Report Writing
Mon. Oct. 26	Signal Detection Tutorial
Thurs. Oct. 29	Signal Detection Tutorial
Mon. Nov. 2	Lecture/Discussion: Change Blindness
Thurs. Nov. 5	Lab Day: Data Collection
Mon. Nov. 9	Lab Day: Data Analysis
Thurs. Nov. 12	Lab Day: Report Writing
Mon. Nov. 16	Eye-Tracking Tutorial
Thurs. Nov. 19	Eye-Tracking Tutorial
Mon. Nov. 23	Presentations (Group 1)
Thurs. Nov. 26	Presentations (Group 2)
Mon. Nov. 30	Presentations (Group 3)
Thurs. Dec. 3	Presentations (Group 4)

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