

Selected Topics in Real-World Scene Perception

PSYC423 – Fall 2020 Syllabus

Synchronous Zoom Discussion on Wednesday, 11:30am-12:30pm on Zoom

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Office Hours: Tuesdays 11:00am-12:00pm (subject to change; please see onQ for updates and Zoom link)

Learning Objectives

To complete this course students will demonstrate their ability to:

- Summarize current theories visual cognition with a special emphasis on scene processing, object recognition, visual attention, eye movements, visual memory and related applied fields
- Critically evaluate current, experimental literature in the field of visual cognition
- Develop writings skills
- Summarize and communicate research findings in one area of visual cognition
- Generate new research question in the field of visual cognition

Course Format

Each week will focus on a particular topic. Because this semester the course is being offered remotely, things are very experimental and may change (depending on how things go). Think of the class as having two meetings per week, one is live and one takes place over two days and participation is offline.

Here is the structure for each week:

- **Every week** you will have two readings focused on the topic for that week.
- Every **Tuesday** by 7pm, a reaction paper is due (see below for a description)
- Every **Wednesday** we will have a zoom session in which we discuss the readings and the topic for that week (see below on how these will proceed)
- Every **Thursday** by 5pm, one person from each group will be assigned as the presenter and will post a video of describing a new study on the topic for that week
- Every **Friday** by 5pm, other members of a group will post a reaction video answer a question posed by the presenter

Generally, you will be introduced to a new topic through the weekly readings and a Reaction paper. You will have the opportunity to share the thoughts of your reaction paper during the

Wednesday zoom session. Then, each week you will participate as *either* as the presenter for your group or as a participant for the presenter. As the presenter, you will lead discussion on an article of their choosing related to that week's topic through the Flipgrid Assignment.

Readings

There is no textbook. Articles will be assigned to be read for each class. You will be able to download the articles from the web/library – use your research skills! Any articles not available through the school library system or available on-line (through Google Scholar, the author's own website or other repositories such as Research Gate, bioRxiv or PsyArXiv) will be provided via onQ in advance.

Workload

Participation

Participation is always good in a seminar class and especially important in the remote incarnation! Participating and presenting go hand in hand, and speaking up in class will help make the class more interesting. All criticisms/comments/questions are encouraged. You will be graded for your participation in the course, both in the live zoom sessions and in the offline video assignments.

Reaction Paper

Each week you will be required to submit (via onQ) a Reaction Paper. It is not to be **no more than 1 page long** (more than that and you should edit). The reaction paper is meant to show that you have done the readings and that you have **thought about them**. I am interested in *your* ideas – not the authors'. A summary of the experiment is not required and is insufficient. Demonstrate your ability to synthesize information, critically examine or come up with your own ideas for experiments (i.e., show creativity). I suggest that you begin by coming up with something you thought of while reading, a critique of the experiment, theoretical question about the experiment, or a possible next step for a future study. By the end of the semester, you will be able to demonstrate that you can go beyond the material as presented.

Reaction papers are submitted via onQ Assignment Folder – under each week's banner.

Reaction papers are **due by 7pm each Tuesday** prior to Wednesday Zoom Session.

NB: **No Exceptions** will be made for late reaction papers. Your best 10 grades count from a possible 11, so the bottom grade is dropped.

Grading of Participation and Reaction Papers is based on Young's I-C-E (Ideas, Concepts, and Extensions):

- **3/3** Comments and responses reveal a capacity to analyze, synthesize, and evaluate material and give evidence of original thinking and an extensive knowledge base. They demonstrate a careful, concise, critical analysis with a clear and well-argued hypothesis based on the material. They exhibit evidence of learning that is willing to explore beyond the initial learning situation.

- **2/3** Comments and responses reveal a good analysis and some critical reasoning. They demonstrate a reasonable understanding of relevant issues and familiarity with the material. They demonstrate a solid understanding of the relationship or connections among the basic concepts. They show a need to be more concise or precise in details and more careful in articulating arguments.
- **1/3** Comments and responses show an acceptable treatment of the subject matter. They demonstrate an understanding of the basic facts, vocabulary, details, and elemental concepts and show an ability to deal with simple issues arising out of the material. The student needs to engage the subject matter more fully and formulate ideas more clearly.

FlipGrid Presentation/Response Videos

As a presenter, you will lead two discussions with the class. These will be conducted offline via Flipgrid. For each presentation, you will choose a new article related to that week's topic and provide a ~5 **minute summary presentation via Flipgrid**. Flipgrid offers a platform to present a topic video and then response videos. The class will be divided into groups and you will comment on each other's presentations. To help with the summary, each presenter is free to provide a **one page handout** with key figures and list 2-3 questions that your group members can think about and include in their response. The presenter's video must be posted by **Thursday at 5pm** and each group members' response must be posted by **Friday at 5pm**.

How it will work: Each week I will send an invitation link to all presenting members of each group. At 5pm on Thursday, the link will be posted to the class. These videos will be a max 5 min long.

- **Presentation Videos:** For presenters, summarize the main question, experiment task and the main pattern of results. Then present 2-3 questions for your fellow group members to respond to and comment on. **Label your video with your name and Group Letter (A-D).**
- **Response Videos:** If you are not presenting in a given week, you are expected to post a response video. You are assigned to respond to the presentation of your group member, but are also free to comment on others. For groups who have fewer group members, you may choose one of the other group presenters to respond to for that week. Response videos must be at least 30 sec long and a max of 5 min long.

*NB: I want to note that this is all ***very*** experimental and we will likely be tweaking the process as we go.*

Zoom Discussion Guidelines

University is a place to share, question and challenge ideas. I want you to keep in mind that each person brings a different lived experience from which to draw upon. To help one another learn the most we can from this experience please consider the following guidelines.

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on the lives of other people and make sure your writing is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. Pay close attention to what your peers say before you respond. Think through and review your responses before you post or send them to others.
6. It's ok to disagree with ideas, but do not make personal attacks.
7. Be open to being challenged or confronted on your ideas and to challenging others with the intent of facilitating growth. Do not demean or embarrass others.

Research Proposal

On **Wednesday Dec 9th at 5pm**, you will be required to submit a research paper (10 pages max) on a topic of current interest within the field of scene perception/scene processing. The final paper will include a review of past research relevant to your topic, and a proposal for future research (i.e., a new experiment). Late papers will be penalized 10% per day. More information will follow (submit under Assignments on onQ).

To help you get a headstart on this assignments, you will choose your topic and hand-in a **one paragraph summary** (1/2 page long max) describing your idea for the final paper on **Friday Nov 13th at 5pm**. This half-page summary will be included in your research proposal grade (submit under Assignments on onQ).

Evaluation

Class Participation	20%
Reaction Papers	20%
Presentation/Discussion	20%
Research Proposal	40%

Grading Method

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

Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity; honesty, trust, fairness, respect, responsibility and courage (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/senate/report-principles-and-priorities>).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour 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 <https://www.queensu.ca/artsci/students-at-queens/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.

Accommodation Statement

Queen's University is committed to achieving full accessibility for people 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. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016 (see

<https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senateandtrustees/ACADACCOMMPOLICY2016.pdf>). If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the **Queen's Student Accessibility Services (QSAS)** and register as early as possible. For more information, including important deadlines, please visit the QSAS website at: <http://www.queensu.ca/studentwellness/accessibility-services/>

Copyright Statement

This material is copyrighted and is for the sole use of students registered in PSYC 423. This material shall not be distributed or disseminated to anyone other than students registered in PSYC 423. Failure to abide by these conditions is a breach of copyright, and may also constitute a breach of academic integrity under the University Senate's Academic Integrity Policy Statement.

Course Schedule

Week	Day	Date	Topic	Readings & Assignments
1	Wednesday	09-Sep	Organizational meeting and Introduction	
	Friday	11-Sep		
2	Wednesday	16-Sep	Initial Perception of Scenes	<p>Intraub, H. & Richardson, M. (1989). Wide-angle memories of close-up scenes. <i>Journal of Experimental Psychology: Learning, Memory, and Cognition</i>, 15, 179-187.</p> <p>Evans, Karla K., Todd S. Horowitz, and Jeremy M. Wolfe. "When categories collide: Accumulation of information about multiple categories in rapid scene perception." <i>Psychological science</i> 22, 6 (2011): 739-746.</p> <p>Reaction Paper #1 Due</p>
	Friday	18-Sep	Flipgrid Assignment (Group Member 1): Presentations due Thursday at 5pm; Responses due Friday at 5pm	

3	Wednesday	23-Sep	<p align="center">Memory for Scenes</p>	<p>Konkle, T., Brady, T. F., Alvarez, G. A., & Oliva, A. (2010). Scene memory is more detailed than you think the role of categories in visual long-term memory. <i>Psychological Science, 21</i>(11), 1551-1556.</p> <p>Kaunitz, L. N., Rowe, E. G., & Tsuchiya, N. (2016). Large capacity of conscious access for incidental memories in natural scenes. <i>Psychological science, 27</i>(9), 1266-1277.</p> <p align="right">Reaction Paper #2 Due</p>
	Friday	25-Sep	<p align="center">Flipgrid Assignment (Group Member 2): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	
4	Wednesday	30-Sep	<p align="center">Photos and False Memories</p>	<p>Cardwell, B.A., Henkel, L.A., Garry, M. et al. (2016). Nonprobative photos rapidly lead people to believe claims about their own (and other people’s) pasts. <i>Memory & Cognition, 44</i>, 883–896.</p> <p>Nash, R. A. (2018). Changing beliefs about past public events with believable and unbelievable doctored photographs. <i>Memory, 26</i>(4), 439-450.</p> <p align="right">Reaction Paper#3 Due</p>
	Friday	02-Oct	<p align="center">Flipgrid Assignment (Group Member 3): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	

5	Wednesday	07-Oct	<p>On-Line Scene Representations How much do you really see as you look around?</p>	<p>Rensink, R. A., O'Regan, J. K., & Clark, J. J. (1997). To see or not to see: The need for attention to perceive changes in scenes. <i>Psychological science</i>, 8(5), 368-373.</p> <p>Wood, K., & Simons, D. J. (2017). Reconciling change blindness with long-term memory for objects. <i>Attention, Perception, & Psychophysics</i>, 79(2), 438-448.</p> <p>Reaction Paper #4 Due</p>
	Friday	09-Oct	<p>Flipgrid Assignment (Group Member 4): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	
6	Wednesday	14-Oct	<p>At the Movies: How well do people remember details at the scene of a movie? Does it impact how the story is interpreted?</p>	<p>Smith T J, Lamont P, Henderson J M. (2013). Change blindness in a dynamic scene due to endogenous override of exogenous attentional cues. <i>Perception</i> 42(8) 884-886.</p> <p>Smith, T. J., & Martin-Portugues Santacreu, J. Y. (2017). Match-action: The role of motion and audio in creating global change blindness in film. <i>Media Psychology</i>, 20(2), 317-348.</p> <p>Reaction Paper #5 Due</p>
	Friday	16-Oct	<p>Flipgrid Assignment (Group Member 5): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	

7	Wednesday	21-Oct	<p>Eye Movements in Real-world Scenes</p> <p>How do we know where to look first?</p>	<p>Henderson, J. M. (2017). Gaze control as prediction. <i>Trends in Cognitive Sciences</i>, 21(1), 15-23.</p> <p>Tatler, B. W., Hayhoe, M. M., Land, M. F., & Ballard, D. H. (2011). Eye guidance in natural vision: Reinterpreting salience. <i>Journal of vision</i>, 11(5), 5.</p> <p>Reaction Paper #6 Due</p>
	Friday	23-Oct	<p>Flipgrid Assignment (Group Member 1): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	
8	Wednesday	28-Oct	<p>***Fall Break***</p>	
	Friday	30-Oct		
9	Wednesday	04-Nov	<p>Marketing and Ads</p>	<p>Pieters R. & Wedel, M. (2007). Goal Control of Attention to Advertising: The Yarbus Implication. <i>Journal of Consumer Research</i>, 34, 224-233.</p> <p>Kaspar, K., Weber, S. L., & Wilbers, A. K. (2019). Personally relevant online advertisements: Effects of demographic targeting on visual attention and brand evaluation. <i>PloS one</i>, 14(2), e0212419.</p> <p>Reaction Paper #7 Due</p>
	Friday	06-Nov	<p>Flipgrid Assignment (Group Member 2): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	

10	Wednesday	11-Nov	<p>Searching Through Scenes How do you quickly and accurately find what you're searching for?</p>	<p>Hayes, T. R., & Henderson, J. M. (2019). Scene semantics involuntarily guide attention during visual search. <i>Psychonomic bulletin & review</i>, 26(5), 1683-1689.</p> <p>Le-Hoa Võ, M., & Wolfe, J. M. (2015). The role of memory for visual search in scenes. <i>Annals of the New York Academy of Sciences</i>, 1339(1), 72-81.</p> <p>Reaction Paper #8 Due</p>
	Friday	13-Nov	***No Flipgrid Assignment***	<p>Research Proposal Description Due (Friday Nov 13 at 5pm)</p>
11	Wednesday	18-Nov	<p>Radiology and Search</p>	<p>Drew, T., Cunningham, C., & Wolfe, J. M. (2012). When and why might a computer-aided detection (CAD) system interfere with visual search? An eye-tracking study. <i>Academic radiology</i>, 19(10), 1260-1267.</p> <p>Evans, K. K., Haygood, T. M., Cooper, J., Culpan, A. M., & Wolfe, J. M. (2016). A half-second glimpse often lets radiologists identify breast cancer cases even when viewing the mammogram of the opposite breast. <i>Proceedings of the National Academy of Sciences</i>, 113(37), 10292-10297.</p> <p>Reaction Paper #9 Due</p>
	Friday	20-Nov	<p>Flipgrid Assignment (Group Member 3): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	

12	Wednesday	25-Nov	<p>Navigation and Spatial Perception in Scenes</p> <p>How does movement around a scene affect how you represent the scene?</p>	<p>Nardini, M., Jones, P., Bedford, R., & Braddick, O. (2008). Development of cue integration in human navigation. <i>Current Biology</i>, 18(9), 689-693.</p> <p>Epstein, R. A., Patai, E. Z., Julian, J. B., & Spiers, H. J. (2017). The cognitive map in humans: spatial navigation and beyond. <i>Nature Neuroscience</i>, 20(11), 1504.</p> <p>Reaction Paper #10 Due</p>
	Friday	27-Nov	<p>Flipgrid Assignment (Group Member 4): Presentations due Thursday at 5pm; Responses due Friday at 5pm</p>	
13	Wednesday	02-Dec	<p>Driving</p> <p>What do you pay attention to when you drive? What happens in more complex environments? What about distractions?</p>	<p>He, J., Chaparro, A., Nguyen, B., Burge, R. J., Crandall, J., Chaparro, B., ... & Cao, S. (2014). Texting while driving: Is speech-based text entry less risky than handheld text entry?. <i>Accident Analysis & Prevention</i>, 72, 287-295.</p> <p>Wood, G and Hartley, G and Furley, P and Wilson, MR (2016) Working Memory Capacity, Visual Attention and Hazard Perception in Driving. <i>Journal of Applied Research in Memory and Cognition</i>, 5(4), 454-462.</p> <p>Reaction Paper #11 Due</p>
	Friday	04-Dec	<p>Flipgrid Assignment (Group Member 5): Presentations due Thursday at 5pm; Responses due Friday at 5pm (Final Paper Due Wednesday, Dec 9)</p>	