

PSYC 420
Advanced Topics in Cognitive Psychology: Face Perception

Territorial Acknowledgement: Queen's University is situated on traditional Anishinaabe and Haudenosaunee Territory. To acknowledge this traditional territory is to recognize its longer history, one predating the establishment of the earliest European colonies. It is also to acknowledge this territory's significance for the Indigenous peoples who lived, and continue to live, upon it – people whose practices and spiritualities were tied to the land and continue to develop in relationship to the territory and its other inhabitants today. The Kingston Indigenous community continues to reflect the area's Anishinaabek and Haudenosaunee roots. There is also a significant Métis community and there are First Peoples from other Nations across Turtle Island present here today.

Instructor: Dr. Jillian O'Connor

Email: jillian.oconnor@queensu.ca

Phone: 613 533 6059

Office: Craine Rm C406

Office hours: Virtual office hours: To schedule a virtual meeting please click [here](https://calendly.com/drjoconnor/office-hours) (https://calendly.com/drjoconnor/office-hours) to schedule a virtual meeting. Meeting times are automatically set to 15 minutes. If you require more than 15 minutes, you may book another meeting immediately following the first.

Contacting me: Email is my preferred method of contact. Please enter "PSYC 420" in subject line. Please note that I respond to emails within approximately 48 hours (although usually the same day), Monday to Friday, between 9 and 5pm.

Course times & location: Winter 2022, Jan 10-April 8

Modality: Remote until Feb 27th, on-campus starting on Feb 28th

Before Feb 27th: Synchronous via Zoom, see onQ for link

After Feb 28th:

Mon 11:30AM - 1:00PM, KINES & HLTH RM107

Thurs 1:00PM - 2:30PM, KINES & HLTH RM107

Number of credits: 3.0

Modality: on-campus

Pre-requisites: PSYC 221/3.0 or PSYC 220/6.0 or COGS 200/6.0.

Course materials: All required course readings are freely available through the university library. See reading list for details. Additional required readings as posted via onQ.

Calendar description: An examination of selected topics in cognitive psychology which may include: computational modelling; problem-solving; face recognition; gestalt influences on cognitive science; motor control processes; cognitive neuropsychology. Exact topics to vary by year.

Course description: In this course we will discuss the cognitive neuroscience of face perception. Topics will include the structural and functional mechanisms of face processing and recognition, cognitive processes such as attention allocation and memory, and dysregulation and dysfunction of face perception. Practical applications and social implications will be discussed.

Learning outcomes: Upon successful completion of this course students will be able to

1. Identify the underlying neural structures and processes involved in face perception
2. Discuss neuropsychological models of face perception, their limitations, and applications
3. Evaluate appropriate methodological approaches for investigating face perception
4. Understand the social implications and practical application of face perception theories and research

Suggested Time Commitment: In this course, you should expect to invest on average 8 to 10 hours per week. This will include the time you spend in class, studying course material, and completing homework or preparing for your assignments and exams. You are encouraged to use a term at a glance and a weekly study schedule (visit [SASS](#)) that distributes the 8-10 hours per week and avoid 'cramming'. This way you will be more likely to complete the course successfully and remember what you learned longer.

onQ : Throughout the term, I will routinely post course news in the Announcements section of the course homepage. I encourage you to actively check the course onQ main page for course announcements throughout the semester for reminders and additional course information or learning opportunities. If you have general questions about anything in the course and that your question may benefit other students, you are invited to post your question in the Course Questions discussion forum. Feel free to help answer your peers' questions on this forum.

Grading Scheme & Method:

Evaluation	% of Course Grade	Dates
Seminar Reflection	20% (4 x 5%)	Thursdays, schedule TBA
Seminar Discussion Engagement	15%	Each Thursday
Seminar Leadership	50% (2 x 25%)	Thursdays, schedule TBA
Term Paper	25%	April 7 th

Important University Dates

Date	Event
Jan 10	Classes start
Jan 21	Last day to add courses
Jan 21	Last day to drop courses without financial penalty
Mar 4	Last day to drop without academic penalty
April 8	Classes end
April 14-30	Final Exam period

Course timeline: The following schedule reflects the order of topics. Lecture topics may be covered before/after the scheduled date depending upon factors such as topic progression. The instructor reserves the right to modify the contents of this syllabus as necessary. Any changes made to the course calendar will be communicated to students in a timely manner. All dates and times in this syllabus are EDT/EST.

Week	Date	Topic
1	Jan 10 Jan 13	Introduction
2	Jan 17 Jan 20	Science & Methods
3	Jan 24 Jan 27	The Brain
4	Jan 31 Feb 3	Perceptual Processes
5	Feb 7 Feb 10	Social Cognition
6	Feb 14 Feb 17	Face Preferences
7	Feb 21 Feb 24	Winter Break
8	Feb 28 Mar 3	Attention
9	Mar 7 Mar 10	Facial Recognition & Memory
10	Mar 14 Mar 17	Emotional Expression
11	Mar 21 Mar 24	Development
12	Mar 28 Mar 31	Comparative Approaches
13	Apr 4 April 7	Dysregulation & Dysfunction

Assessment of Learning Outcomes: Your grade in this course will be calculated based on your performance on the assessments as documented in this syllabus. There are no other opportunities for credit other than those documented in this syllabus. Grades on assessments are allocated based upon demonstrated mastery of the materials and skills as evaluated by the instructor.

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:

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

Seminar Discussion Engagement: Students must be prepared to meaningfully contribute to class discussions, student-lead seminars, participate in learning activities, and otherwise be prepared for each class by completing assigned readings and selected papers for student-lead seminars.

Seminar Leadership: Seminar presentations and discussions will be led twice by each student, who will develop and expand upon the topic for the seminar by giving a presentation on an assigned reading (marked by * in the reading list). Presentations will be limited to 25 minutes and are to be followed by a 20-minute discussion period lead by the presenter. The presenter is responsible for preparing 3 questions for class discussion. Each student will be required to present two seminars. Presenters must submit their power point/slides and discussion questions 3 days prior to each scheduled presentation. The presentation of the research should be in depth (i.e., theoretical rationale, hypotheses, methods, results, interpretations, implications, applications, limitations) and explicitly integrated with the week's topic and required reading(s).

Seminar Reflection: For assigned seminar presentations (schedule TBA), students will be assigned to write a brief summary of one of the seminar presentations/ discussions. The summary should focus on the relevant theories and concepts, how they were applied/discussed, and what was learned from the session. Summaries should be no longer than 500 words. Seminar summaries are due 1 week after the assigned date.

Term Paper: During the term, students will develop and research a selected topic within face perception. Students will consult with their peers and instructor regarding their focal topic, thesis, background literature, and paper structure throughout the term. Additional details will be posted via onQ and discussed in-class. The final submission will be no longer than 10 double-spaced pages, formatted according to the 7th edition of the APA manual, and will qualitatively include 5 empirical papers from the primary literature.

Assignment submission & Late assignments: All assignments are submitted through the course onQ. Emailed assignments are not accepted and will not be graded. Students may access MS word via Microsoft 365: <https://www.queensu.ca/its/software/available-software/microsoft-365-apps-enterprise/tutorials/office-windows> Unreadable/corrupt/empty/incomplete or “incorrect” files or files that are not in the required format will be considered late and penalized accordingly until the assignment is properly submitted. Students are not permitted to revise their submissions in any manner once the deadline is passed. It is the student’s responsibility to ensure that their document is (1) readable and (2) in the correct format.

In the interest of Universal Design for Learning, students are allotted a 72-hour grace-period for submission of all assignments (with the exception of the seminar presentations). Submissions after these deadlines will be subject to a 15% penalty per day and will not be eligible for credit 3 days after the grace period has expired.

Course Feedback: At various points during the course, I may ask you to take part in a variety of feedback activities, such as surveys, questionnaires, and exit tickets. This feedback enables my teaching team and me to make any adjustments necessary to improve your learning environment. Additional feedback will be sought throughout the course. All surveys are anonymous and are directly related to activities, assessments, and other course material.

Web Browsers: onQ performs best when using the most recent version of the web browsers, Chrome or Firefox. Safari and Edge are strongly discouraged as these web browsers are known to cause issues with onQ.

Students are encouraged to work with the most recent versions of software, including web browsers, Java, Flash, and Adobe Reader.

For technology support ranging from setting up your device, issues with onQ or to installing software, contact ITS Support Centre <https://www.queensu.ca/its/itsc>

Discussion Guidelines: University is a place to share, question and challenge ideas. Each student 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 write before you respond. Think through and re-read your writings 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.
8. Encourage others to develop and share their ideas.

Accommodations for Disabilities: 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 their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at [Senate in November 2016](#). 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](#).

Academic Consideration for Students in Extenuating Circumstances:

Academic consideration is a process for the university community to provide a compassionate response to assist students experiencing unforeseen, short-term extenuating circumstances that may impact or impede a student's ability to complete their academics. This may include but is not limited to:

- Short-term physical or mental health issues (e.g., stomach flu, pneumonia, COVID diagnosis, vaccination, etc.)
- Responses to traumatic events (e.g., Death of a loved one, divorce, sexual assault, social injustice, etc.)
- Requirements by law or public health authorities (e.g., court date, isolation due to COVID exposure, etc.)

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances. For more information, please see the [Senate Policy on Academic Consideration for Students in Extenuating Circumstances](#).

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the [portal where a request can be submitted](#). Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

If you need to request academic consideration for this course, you will be required to provide the name and email address of the instructor/coordinator. Please use the following:

Instructor Name: Jillian O'Connor

Instructor email address: jillian.oconnor@queensu.ca

Your professor requests email/phone communication within 2 days of receiving verification of your Consideration request. Students are encouraged to submit requests as soon as the need

becomes apparent and to contact their professor as soon as possible once consideration has been granted. Any delay in contact may limit the Consideration options available.

For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, [please see our website](#).

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. 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](#)).

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](#)), on the [Arts and Science website](#), 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. Issues of academic integrity that are particularly relevant to this course are as follows (adapted from <https://www.queensu.ca/artsci/students-at-queens/academic-integrity>):

1. **Plagiarism:** Presenting another's ideas or phrasings as one's own without proper acknowledgement. For example: Copying and pasting from the internet, a printed source, or other resource without proper acknowledgement, copying from another student, using direct quotations or large sections of paraphrased material in an assignment without appropriate acknowledgement, or submitting the same piece of work in more than one course without the permission of the instructor(s).
2. **Use of unauthorized materials,** such as possessing or using unauthorized study materials or aids during a test copying from another's test paper, using unauthorized calculator or other aids during a test, unauthorized removal of materials from the library, or deliberate concealment of library materials.
3. **Facilitation:** Enabling another's breach of academic integrity, such as by making information available to another student, knowingly allowing one's essay or assignment to be copied by someone else, buying or selling of term papers or assignments and submitting them as one's own for the purpose of plagiarism.
4. **Falsification:** Misrepresentation of oneself, one's work, or one's relation to the University, such as by altering transcripts or other official documents relating to student records, impersonating someone in an examination or test, submitting a take-home

examination written, in whole or in part, by someone else, or fabricating or falsifying laboratory or research data.

Copyright of Course Materials: Unless otherwise stated, all course materials are copyrighted and are for the sole use of students registered in PSYC 420. The materials may be downloaded for a registered student's personal use but shall not be distributed or disseminated to anyone other than students registered in this course. Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the instructor's intellectual property. It is a departure from academic integrity to distribute, publicly post, sell, or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution (including note sharing sites), posting, sale or other means of dissemination without the instructor's *express written consent*. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Turnitin Statement: This course uses Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely to detect plagiarism. Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to select the authenticity of work as a part of a larger process. Please read [Turnitin's Privacy Pledge, Privacy Policy, and Terms of Service](#), which govern users' relationship with Turnitin. Also, please note that Turnitin uses cookies and other tracking technologies; however, in its service contract with Queen's, Turnitin has agreed that neither Turnitin nor its third-party partners will use data collected through cookies or other tracking technologies for marketing or advertising purposes. For further information about how you can exercise control over cookies, see [Turnitin's Privacy Policy](#). Turnitin may provide other services that are not connected to the purpose for which Queen's University has engaged Turnitin. Your independent use of Turnitin's other services is subject solely to Turnitin's Terms of Service and Privacy Policy, and Queen's University has no liability for any independent interaction you choose to have with Turnitin.

Equity, Diversity and Inclusivity Statement: Queen's University recognizes that the values of equity and diversity are vital to and in harmony with its educational mission and standards of excellence. It acknowledges that direct, indirect, and systemic discrimination exists within our institutional structures, policies, and practices and in our community. These take many forms and work to differentially advantage and disadvantage persons across social identities such as

race, ethnicity, disability, gender identity, sexual orientation, faith, and socioeconomic status, among other examples.

Expectations: Students in this course are expected to attend (in both body *and* mind) lecture and labs, be prepared to learn, participate, and contribute productively to the course environment. Students can help prepare themselves by reading the assigned material before class (recommended) and keeping up to date on materials e.g., via onQ. Students must take personal responsibility for their learning and actions, such as by taking the initiative to try to find the answers to their questions, clarify concepts, and complete required assignments to the best of their ability. In turn, students can expect that I will provide a welcome and stimulating class environment. I value equity, fairness, and transparency in all aspects of the course. I encourage student questions, discussions, and engagement, whether in-person or online. I will act as a guide to the course content and provide supplementary information, highlight important concepts, and teach new skills. I have high expectations for students and will do my utmost to help each student excel. Throughout this course, there will be opportunities for you to interact with your instructor and your peers. The professor and students in this course are expected to “act in good faith,” which means fair and honest dealings, interactions, and communications. You are expected to behave with integrity at all times, both in face-to-face interactions and when engaging with each other online. See the discussion guidelines which I expect each of us to adhere to when interacting with one another, whether in person or online.

Required Course Readings: *Indicates focal papers for seminar presenters. Additional papers for seminar presentation may be added & posted via onQ depending upon student enrollment. Reviewing these papers will help non-presenters contribute to the discussion.

Introduction

Oruc, I., Balas, B., & Landy, M. S. (2019). Face perception: A brief journey through recent discoveries and current directions. *Vision Research*, 157, 1-9.
<https://doi.org/10.1016/j.visres.2019.06.005>.

Science & Methods

Tsao, D. Y., & Livingstone, M. S. (2008). Mechanisms of face perception. *Annual Review of Neuroscience*, 31, 411–437. <https://doi.org/10.1146/annurev.neuro.30.051606.094238>

The Brain

Haxby, J. V., Hoffman, E. A., & Gobbini, M. I. (2000). The distributed human neural system for face perception. *Trends in Cognitive Sciences*, 4, 22–233.
[https://doi.org/10.1016/S1364-6613\(00\)01482-0](https://doi.org/10.1016/S1364-6613(00)01482-0)

Perceptual Processes

Farah, M. J., Wilson, K. D., Drain, M., & Tanaka, J. N. (1998). What is "special" about face perception? *Psychological Review*, *105*, 482–498. <https://doi.org/10.1037/0033-295x.105.3.482>

*Freud, E., Stajduhar, A., Rosenbaum, R.S., Avidan, G. & Ganel, T. (2020). The COVID-19 pandemic masks the way people perceive faces. *Scientific Reports*, *10*, 1-8. <https://doi.org/10.1038/s41598-020-78986-9>

*Dobs, K., Isik, L., Pantazis, D., & Kanwisher, N. (2019). How face perception unfolds over time. *Nature Communications*, *10*, 1-10. <https://doi.org/10.1038/s41467-019-09239-1>

Social Cognition

Hugenberg, K., & Wilson, J. P. (2013). Faces are central to social cognition. In D. E. Carlston (Ed.), *The Oxford handbook of social cognition* (pp. 167–193). Oxford University Press.

*Engell, A. D., Haxby, J. V., & Todorov, A. (2007). Implicit trustworthiness decisions: Automatic coding of face properties in the human amygdala. *Journal of Cognitive Neuroscience*, *19*, 1508-1519. <https://doi.org/10.1162/jocn.2007.19.9.1508>

*Jonathan B. Freeman, J. B., Ryan M. Stolier, R. M., Zachary A. Ingbretsen, Z. A., & Eric A. Hehman, E. A. (2014). Amygdala responsivity to high-level social information from unseen faces. *Journal of Neuroscience* 6 August 2014, *34*, 10573-10581. <https://doi.org/10.1523/JNEUROSCI.5063-13.2014>

Face Preferences

Hui, K., Qinhong, X., & Taiyong, B. (2020). Mechanisms for the cognitive processing of attractiveness in adult and infant faces: From the evolutionary perspective. *Frontiers in Psychology*, *11*, 1-9. <https://doi.org/10.3389/fpsyg.2020.00436>

*Cloutier, J., Heatherton, T. F., Whalen, P. J., & Kelley, W. M. (2008). Are attractive people rewarding? Sex differences in the neural substrates of facial attractiveness. *Journal of Cognitive Neuroscience*, *20*, 941–951. <https://doi.org/10.1162/jocn.2008.20062>

*Carbon, C., Faerber, S. J., Augustin, M. D., Mitterer, B., & Hutzler, F. (2018). First gender, then attractiveness: Indications of gender-specific attractiveness processing via ERP onsets, *Neuroscience Letters*, *686*, 186-192. <https://doi.org/10.1016/j.neulet.2018.09.009>.

Attention

Palermo, R., & Rhodes, G. (2007). Are you always on my mind? A review of how face perception and attention interact. *Neuropsychologia*, *45*, 75-92.

<https://doi.org/10.1016/j.neuropsychologia.2006.04.025>

*Thompson, S. J., Foulsham, T., Leekam, S. R., & Jones, C.R.G. (2019). Attention to the face is characterised by a difficult to inhibit first fixation to the eyes. *Acta Psychologica*, *193*, 229-238. <https://doi.org/10.1016/j.actpsy.2019.01.006>

*Kauffmann, L., Khazaz, S., Peyrin, C., & Guyader, N. (2021). Isolated face features are sufficient to elicit ultra-rapid and involuntary orienting responses toward faces. *Journal of Vision*, *3*, 1-24. <https://doi.org/10.1167/jov.21.2.4>

Facial Recognition & Memory

Young, A. W., & Burton, A. M. (2017). Recognizing faces. *Current Directions in Psychological Science*, *26*, 212–217. <https://doi.org/10.1177/0963721416688114>

*Zhou, X., Elshiekh, A., & Moulson, M. C. (2019) Lifetime perceptual experience shapes face memory for own- and other-race faces. *Visual Cognition*, *27*, 687-700. <https://doi.org/10.1080/13506285.2019.1638478>

*Mousavi, S. M., & Oruc, I. (2020). Tuning of face expertise with a racially heterogeneous face-diet. *Visual Cognition*, *28*, 523-539.

<https://doi.org/10.1080/13506285.2020.1836696>

Emotional Expression

Barrett, L. F., Adolphs, R., Marsella, S., Martinez, A. M., & Pollak, S. D. (2019). Emotional expressions reconsidered: Challenges to inferring emotion from human facial movements. *Psychological Science in the Public Interest*, *20*, 1–68.

<https://doi.org/10.1177/1529100619832930>

*Barrick, E. M., Thornton, M. A., & Tamir, D. I. (2021). Mask exposure during COVID-19 changes emotional face processing. *PLoS ONE*, *16*, 1-22.

<https://doi.org/10.1371/journal.pone.0258470>

*Bach, D. R., Hurlmann, R., & Dolan, R. J. (2015). Impaired threat prioritisation after selective bilateral amygdala lesions. *Cortex*, *63*, 206–213.

<https://doi.org/10.1016/j.cortex.2014.08.017Development>

Development

Simion, F., & Di Giorgio, E. (2015). Face perception and processing in early infancy: inborn predispositions and developmental changes. *Frontiers in Psychology, 6*, 1-11.
<https://doi.org/10.3389/fpsyg.2015.00969>

*Pickron, C. B., & Cheries, E. W. (2019) Infants' individuation of faces by gender. *Brain Science, 9*, 1-20. <https://doi.org/10.3389/fpsyg.2015.0096910.3390/brainsci9070163>

Comparative Approaches

Leopold, D. A., & Rhodes, G. (2010). A comparative view of face perception. *Journal of Comparative Psychology, 124*, 233–251. <https://doi.org/10.1037/a0019460>

Dysregulation & Dysfunction

Venn, H. R., Watson, S., Gallagher, P., & Young, A. H. (2006). Facial expression perception: an objective outcome measure for treatment studies in mood disorders? *International Journal of Neuropsychopharmacology, 9*, 229–245.
<https://doi.org/10.1017/S1461145705006012>