

320 – Cognitive neuroscience
Psych 320
Winter 2021
Online

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Pronoun: He/Him.

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1. Course description

How does the brain perceive, think and feel? This course in cognitive neuroscience provides a window into contemporary views of how different features of cognition are implemented by the human brain. The course will cover advances in our understanding of the brain mechanism of human cognition that are made possible by modern brain-imaging methods over the last three decades. These advanced techniques, such as functional magnetic resonance imaging, have allowed insight into the brains systems engaged during different human cognition as it happens. Some of the topics covered in class will cover the brain basis of attention, emotion and cognition.

The lectures are designed to accompany the textbook and will contextualise the information in contemporary questions facing cognitive neuroscientists. **This means that the lectures will not cover all of the material in the text book.** This feature of the course is designed to help you (i) see the links between different aspects of the field and (ii) to understand the broad questions that researchers grapple with when trying to understand the brain basis of cognition and emotion. To facilitate this goal this course, most lecture will be accompanied by one or two short talks by expert in different areas. These talks will provide perspectives on cutting edge cognitive neuroscience findings by researcher's in their own words and as part of your ongoing course work you will be asked to provide short answers on the issues raised by these talks (see below).

The class will use an online discussion board where you can share any questions about the course that you may have. Before posting a question, please check this out to see if any similar issues have been raised by other students.

Evaluation

This course contains a variety of assessments, described in more detail below:

Video Reaction Papers	20%
Mid-Term Paper	40%
Final Exam	40%

1. Learning Outcomes

Upon completion of this course students will be able to:

- Describe goals and objectives of contemporary cognitive neuroscience
- Describe the different methods available to cognitive neuroscience and evaluate their strengths and weaknesses.
- Describe the neural systems linked to specific features of higher order thoughts (emotion, cognitive control, memory and social cognition)
- Critically evaluate the conclusions that can be drawn by cognitive neuroscientists based on the limits of today's methods.

2. Assessment of learning outcomes

There will be 5 pieces of coursework in this class (1 mid-term paper and 3 Video Reaction papers and a Final Cumulative exam). The date of each piece of course work is due will be indicated in the schedule found in onQ. The final exam will consist of multiple choice and short answers and will cover the whole course.

Mid-term paper

There will be one mid-term paper for this course worth 40% of the course mark. This will take the form of a 1500 word essay and it will require that you apply principles covered in the lectures and information from your readings of the text book. The instructions for this paper will be posted in onQ at least 1 week prior to the due date and will be submitted via onQ.

Submission of the MidTerm Paper is required for completion of this course. If you require more than a 3 day extension for the MidTerm Paper due to extenuating circumstances, you must apply for academic consideration through the method described in this syllabus.

Video Reaction papers

Throughout the semester, there will also be 3 Video Reaction Papers and your best two will each be worth 10% of your mark (a total of 20%). You will be required to submit (via onQ) a Video Reaction Paper concerned with the sets of expert talks covered so far in class. Typically, these will be 500 words double spaced. Details on these submissions can be found below.

There will be no make-up Video Reaction Papers. If you miss more than 2 submissions for the Video Reaction Papers, please contact Dr. Smallwood as soon as possible.

The expert talks will all cover contemporary questions that are connected to one of the topics covered by the lectures in class. You can choose any of the topics covered by videos but each week's talks can only figure in one of your answers. The reaction papers are meant

to show me that you have understood the talks and that you have thought about them. I am interested in your ideas. **A summary or description of the talks is not enough.** You are encouraged to write about an issue that you thought of while listening to one or two of the talks:

- a critique of coverage – what things fit with our reading of the concepts, what concepts were too
- simplified or, glossed over or perhaps exaggerated,
- consideration of how the main concept being discussed in class relates to real-life
- talk about the implications of something discussed in the podcast
- suggest a new experiment to explore a specific question raised in the podcast

Written Assignments (the MidTerm Paper and Video Reaction Papers) are due at 5pm on Friday of the assigned week and are to be submitted via onQ.

There may be a time when you are unable to submit a written assignment for personal reasons. To build in some flexibility for all students, each written assignment will have a 3-day grace period. That is, your assignments are due on the due date in OnQ but will be accepted, without penalty, up to 72 hours afterwards. Assignment dropboxes will close 72 hours after the published deadline and assignments not submitted by that time will receive a '0'. This universal design feature precludes your need to use the Faculty's Request for Academic Consideration without documentation portal. Should you have a documented request for more than 72 hours, please do use the portal (details below)

3. Course materials/Readings and timeline.

Text book: Cognitive Neuroscience: The biology of the mind
M.S, Gazzangia, R.B. Ivry and G.R. Mangun, Norton Fifth Edition.

It can be found here: <https://www.campusbookstore.com/textbooks/access-code-search-engine>

4. Tentative Class Schedule (Please note that this is subject to change)

Week		Topic		Textbook chapter(s)	Assignments
1	Jan 11	Lecture	Introduction: Why cognitive neuroscience?	1	
		Talks	Chalmers and Damasio		
2	Jan 18	Lecture	The goals of cognitive neuroscience	1	
		Talks	Michael Mzernick and Thomas Insel		
3	Jan 25	Lecture	Neural activity encodes information	2	
		Talks	Henry Markham and Fred Barret		
4	Feb 1	Lecture	The method of cognitive neuroscience	3	
		Talks	Ed Boyden and Nancy Kanwisher		

5	Feb 8	Lecture	The structure of cognition and the brain	4, 5	Talk assignment #1
		Talks	Julie Bolte and Suzana Herculano-Houzel		
6	Feb 15	Reading week			
7	Feb 22	Lecture	Interacting with the environment	6	
			Daniel Wolpert & Mehdi Ordrikhani Seyedlar		
8	Mar 1	Lecture	Attention	7, 8	Mid-term Paper
		Mid-term paper	<i>No talks this week due to mid-term paper</i>		
9	Mar 8	Lecture	Memory	9	
		Talks	TBA		
10	Mar 15	Lecture	Cognitive control	12	Talk assignment #2
		Talks	TBA		
11	Mar 22	Lecture	Language and meaning	11	
		Talks	TBA		
12	Mar 29	Lecture	Emotion and Social cognition	10, 13	
		Talks	TBA		
13	April 5	Lecture	Consciousness	14	Talk assignment #3
		Talks	TBA		

5. Grading Scheme and 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

7. Timing of Final Examinations

The exam dates for each Term are listed on the Faculty of Arts and Science webpage under "[Important Dates](#)." Student exam schedules for the Fall Term are posted via SOLUS immediately prior to the Thanksgiving holiday; for the Winter Term they are posted on the Friday before Reading Week, and for the Summer Term they are individually noted on the Arts and Science Online syllabi. **Students should delay finalizing any travel plans until after the examination schedule has been posted. Exams will not be moved or deferred to accommodate employment, travel/holiday plans or flight reservations.**

Remote Exams

For exams being offered remotely, Regulation 7.2.3. [Restrictions on Assessment](#) is waived. Remote exams will be allowed in the last two weeks of classes and in the study period designated by Senate prior to the examination period in order to accommodate the limited number of online proctoring seats available.

Remote Proctoring

The final exam and some tests/quizzes in this course may use remote proctoring provided by a third-party, cloud-based service that enables the completion of a proctored exam or test from an off-campus location, through onQ. This online proctoring solution was chosen as part of the approach to maintaining academic integrity in online assessment. Precise details about how remote proctoring may be used in this course can be found in the "Getting Started with Remote Proctoring" content module in onQ.

When writing tests/exams using remote proctoring, you are connecting to the third-party service. Queen's has conducted a privacy and security review of the service and has entered into a binding agreement with terms that address the appropriate collection, use and disclosure of personal information in accordance with Ontario's privacy legislation.

You should also take measures yourself to protect your information by keeping your NetID password and challenge questions private, closing all applications prior to starting an exam/test, and ensuring your device is updated and safeguarded against malware.

8. Statement on 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.

Please note that we have had issues in the past with unintended plagiarism. Regardless of how and where you retrieve information, the principles of academic integrity apply. Please visit these helpful websites to help you make sure that you are able to write things in your own words:

- <https://www.queensu.ca/academicintegrity/students/avoiding-plagiarismcheating>
- <https://integrity.mit.edu/handbook/academic-writing/avoiding-plagiarism-paraphrasing>
- http://writing.wisc.edu/Handbook/QPA_paraphrase.html

9. Calculator Policy

As noted in Academic Regulation 9.2, "Calculators acceptable for use during quizzes, tests and examinations are intended to support the basic calculating functions required by most Arts and Science courses. For this purpose, the use of the **Casio 991 series calculator** is permitted and is the only approved calculator for Arts and Science students."

10. Technology

The statement below outlines general course technology requirements. If your course requires specific software or hardware, the Technology Requirements statement can help further define what available resources the students have access to. For example, if you require students to participate in synchronous sessions, they may need access to a webcam and headset.

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

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.

Internet Speed

While wired internet connection is encouraged, we recognize that students may be relying on a wireless connection. A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended. To test your internet speed, <https://www.speedtest.net/>

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

TURNITIN STATEMENT

This course makes use of Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments to 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 for the purpose of detecting 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 determine the authenticity of work as a part of a larger process.

Please read Turnitin's Privacy Pledge, Privacy Policy, and Terms of Service, which governs 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.

11. Copyright of Course Materials

Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. 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, posting, sale or other means of dissemination, without the instructor's express 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.

13. Privacy Statement for Instructors Who Use External Software in Their Course

This course makes use of Turnitin for submission of coursework. Be aware that by logging into the site, you will be leaving on Q, and accessing Turnitin's website. Your independent use of that site, *beyond what is required for the course (for example, purchasing the company's products)*, is subject to [name of company's] terms of use and privacy policy. You are encouraged to review these documents, using the link(s) below, before using the site: Turnitin -http://turnitin.com/en_us/about-us/privacy

The videos used in the course are hosted by TED. Be aware that by logging into the site you will be leaving on Q and accessing TEDs website. Your independent use of that site, *beyond what is required for the course (for example, purchasing the company's products)*, is subject to [name of company's] terms of use and privacy policy. You are encouraged to review these documents, using the link(s) below, before using the site:
<https://www.ted.com/about/our-organization>

14. Notice of Recording

Any Synchronous (live) classes will be delivered in this course through a video conferencing platform supported by the University [MS Teams, Zoom]. Steps have been taken by the University to configure these platforms in a secure manner. Classes will be recorded with video and audio (and in some cases transcription) and will be made available to students in the course for the duration of the term. The recordings may capture your name, image or voice through the video and audio recordings. By attending these live classes, you are consenting to the collection of this information for the purposes of administering the class and associated coursework. If you are concerned about the collection of your name and other personal information in the class, please contact the course instructor to identify possible alternatives.

To learn more about how your personal information is collected, used and disclosed by Queen's University, please see the general [Notice of Collection, Use and Disclosure of Personal Information](#).

15. 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 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.uslwww/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/>

If you have been provided with a Letter of Accommodation from QSAS, please upload it to our onQ folder titled “QSAS Letters of Accommodation” within the first 2 weeks of class, or as soon as you receive the letter.

16. Academic Consideration for Students with Extenuating Circumstances

Queen’s University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances is available at

<http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslclwww/files/files/policies/senateandtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf>

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 at:

<http://www.queensu.ca/artsci/accommodations>. 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/Coordinator Name: Dr. Jonathan Smallwood

Instructor/Coordinator email address: **psyc320@queensu.ca**

17. Discussion Guidelines

This class uses a discussion board where you can share questions about the course. 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.

