

Queen's University



Department of Psychology

Psychology 376 / 3.0
Functional Neuroimaging the Human Brain and Mind
Fall 2024

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Course Description

Brain imaging, and functional magnetic resonance imaging (fMRI) in particular, has become a revolutionary tool in the study of human brain function and organization. This course will cover brain imaging technology, current tools and techniques for experimental design and analysis, as well as delve into details about brain areas, connectivity and topography. Throughout, the course will highlight the prominent role of fMRI in the burgeoning field of cognitive neuroscience and review, using specific examples, what human neuroimaging has revealed about the functional organization of the mechanisms underlying goal-directed behaviour (e.g., perception, planning, memory, language, decision-making, etc.). In addition, we will discuss the merits and limitations of fMRI as a tool for cognitive neuroscientists and the ways in which it can be combined with other techniques.

Course Schedule

Date	Lecture Topics
Week 1: Sept 2-6	Introduction to Course and Instructor Lecture 1: General introduction to fMRI
Week 2: Sept 9 -13	Lecture 2: MR Physics and Safety Lecture 3: Origins of the BOLD Response
Week 3: Sept. 16-20	Lecture 4: fMRI Preprocessing and Design Principles Lecture 5: Block- and Event-Related Designs
Week 4: Sept. 23-27	Lecture 6: fMRI Statistics and Brain Normalization Lecture 7: Analysis Approaches and Advanced Designs
Week 5: Sept. 30 – Oct. 4	TUESDAY OCT. 1ST CLASS CANCELLED (due to National Day for Truth & Reconciliation) Lecture 8: Repetition Suppression and Multivoxel Pattern Analysis
Week 6: Oct. 7-11	Lecture 9: Brain Networks and Connectivity *only the Friday class this week
Week 7: Oct. 14-18	FALL TERM BREAK
Week 8: Oct. 21-25	Lecture 10: Brain Areas and Topography **Midterm** (covers lectures 1-9)
Week 9: Oct. 28-Nov. 1	Lecture 11: Combining fMRI with Other Techniques Lecture 12: Vision & Perception
Week 10: Nov.4-8	Lecture 13: Motor Systems & Action Control Lecture 14: Memory
Week 11: Nov. 11-15	Lecture 15: Audition & Language Lecture 16: Executive Functions & Decision-making
Week 12: Nov. 18-22	Research Seminars on special topics (TBA) Team Video Presentations: Vision & Perception / Motor Systems
Week 13: Nov. 25-29	Team Video Presentations: Memory / Auditory & Language Team Video Presentations: Executive Functions & Decision-making
<i>Date to be determined</i>	**Final Exam**

Course Learning Outcomes

Upon completion of this course, a successful student should be able to:

1. Understand how fMRI works and how it is commonly used to investigate cognitive processes in the brain
2. Understand, in principle, both basic and advanced fMRI analyses and how corresponding results should be interpreted
3. Understand some basic human functional neuroanatomy and topography

4. Critically read and scrutinize an fMRI paper and understand the strengths and weaknesses of the presented findings (i.e., appreciate what a research paper *does* and *does not* show)
5. Understand the merits and limitations of fMRI as it compares to other methodologies used in cognitive neuroscience
6. Apply active learning, critical thinking and problem-solving to the study of human cognitive neuroscience

Important University Dates

Please visit the [Faculty of Arts and Sciences Sessional Dates website](#) for all academic deadlines.

Inclusion

Land Acknowledgement

The territory that Queen's University occupies is included in the Dish with One Spoon Wampum Belt Covenant, an agreement between the Iroquois Confederacy and the Confederacy of the Ojibwe and Allied Nations to peaceably share and care for the resources around the Great Lakes. The Kingston Indigenous community continues to reflect the area's Anishinaabek and Haudenosaunee roots. There is also a significant Métis community as well as First Peoples from other Nations across Turtle Island present here today.

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. In this class I will work to promote an anti-discriminatory, anti-racist and accountable environment where everyone feels welcome. Every member of this class is asked to show respect for every other member.

Building a Classroom Community

University is a place to share, question, and challenge ideas. Each student brings a different set of lived experiences. You can help to create a safer, more respectful classroom community for learners by following these guidelines:

- Make a personal commitment to learn about, understand, and support your peers.
- Assume the best of others and expect the best of them.
- Recognize and value the experiences, abilities, and knowledge each person brings to the course.
- Acknowledge the impact of oppression on other people's lives and make sure your words and tone are respectful and inclusive.
- Encourage others to develop and share their ideas.
- Pay close attention to what your peers say/write before you respond. Think through and re-read what you have written before you post online or send your comments to others.

- Be open to having your ideas challenged and challenge others with the intent of facilitating growth.
- Look for opportunities to agree with one another, building on and intentionally referencing peers' thoughts and ideas; disagree with ideas without making personal attacks, demeaning, or embarrassing others.

Fostering Accessibility

All of us have a shared responsibility for fostering accessibility and promoting meaningful inclusion of those with disabilities. The [Accessibility Hub](#) at Queen's University's Human Rights & Equity Office offer a host of [tutorials](#) that provide us all with practical tips for:

- creating accessible documents, e.g., to submit to your teaching team or share with peers in peer feedback activities/in a presentation,
- emails, e.g., while communicating with group members or your teaching team, and
- meeting practices (e.g., in tutorials/labs/seminars or virtual meetings).

Name/Pronoun

If, for whatever reason, you wish to change how your name appears in onQ and/or on class lists, please follow these steps. You may also use this process to add your pronouns to the appearance of your name.

1. Log into SOLUS.
2. Click on Personal Information tab.
3. Click on the Names tab
4. Click on the Add New Name tab
5. Choose Preferred from the Name Type drop down menu
6. Enter the name you would like to appear in onQ and/or on class lists.
7. Click Save.

Please allow 24 to 48 hours for your name to be registered within the system. If you have further questions or concerns, please contact ITS at Queen's University.

Accessibility: Queen's University is committed to developing courses that are accessible. For further information on accessibility compliance of the website(s), program(s) application(s) used in the course, please consult the links below.

Notice of Recording

Synchronous (live) classes will be delivered in this course through Zoom and/or Teams, video conferencing platforms supported by the University. 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 [Notice of Collection, Use and Disclosure of Personal Information](#).

Copyright of Course Material

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.

Communication

Questions about the Course and Contacting the Teaching Team

Students requiring assistance are encouraged to speak with me either before or after lectures. I will arrive/leave lectures approximately 10 minutes before/after lecture and will be more than happy to answer any questions during this time. Should you wish to meet with me outside of this time, please email me (or the class TA) to make an appointment. Email, while commonly used, does limit the effectiveness of communications and may not be the best way for me to answer your question(s). In such instances, I may suggest a personal meeting at a mutually agreed upon time (in-person or via Zoom/Teams). I will do my very best to answer emails as soon as possible; however, emails can be expected to be replied to within 2 working days (i.e., a reply to a 1 am Saturday night email may not arrive before Tuesday). To facilitate my responses, please include the course ID (i.e., "PSYC 376") in the subject line of the email. Thanks.

Queen's Email

The university communicates with students via Queen's email. Please check your email regularly to ensure you do not miss important information related to your course.

Course Feedback

At various points during the course, you may be asked to take part in a variety of feedback activities, such as surveys and questionnaires. This feedback enables the teaching team to improve the course. All surveys are anonymous and are directly related to activities, assessments, and other course material.

Relevance of Course

Information taught in this course is highly relevant for students interested in the human brain and behaviour, cognitive and systems neuroscience, neurobiology, computer science, philosophy, medicine, clinical psychology, research and teaching.

Textbook &/or Courseware Package

There is no required textbook for this course. Required readings will be made available for download through OnQ. Students are responsible for all assigned readings as they contain more material than can be covered directly in lecture. Similarly, some material covered in lectures will not appear in the assigned readings. ***Students are responsible for this material as it will appear on exams.***

Course Notes: Lecture slides will be provided for this course (you will need to attend/watch lectures to fill in some of the gaps).

Assessments

<u>Description</u>	<u>Value</u>	<u>Date</u>
Midterm Exam (in-class)	30%	See above
Research Proposal	15%	TBA
Final Exam	30%	TBA
Team Video Presentations	20%	TBA
Weekly MC Questions (20 in total)	5%	at least 1 per lecture

Midterm and Final Exams (30% each; 60% of final mark combined):

The midterm and final exam will each consist of multiple choice questions only and will be assessing a combination of factual and conceptual issues related to the content of the course. There will be no overlap in content between the Midterm and Final Exams. Because of the structure of the course, you will need the content/knowledge acquired in the first half of the course to succeed in the second half and thus, there is no need to overlap content in the two exams. [*As an aside, I always hated it when Professors would make you go back and re-study all the material from the midterm for the final exam.*]

Weekly Multiple Choice (MC) Questions (5% of final mark):

You will be required to create, for each lecture, at least one potential multiple choice question that could, in principle, be used on an exam (Midterm or Final). You must upload these questions, along with the corresponding **correct** response to these questions, using OnQ, prior to every Tuesday lecture (and corresponding to the material covered in the previous week). Each question will have a value of 0.25% on your final mark (note that although they carry a small percentage, they can often determine whether you end the course with an 89% versus a 90%, or a 79% versus 80% grade). Students must produce 20 of these questions over the term, and at least one question per lecture. Because we have 16 lectures in total, 4 of these 20 MC will need to overlap in content with another submitted MC question (with a maximum of 2 MC questions per lecture; this overlap can be done at the student's discretion).

Students will receive a 0.25% grade for producing a viable question (with correct answer) that could be used in an exam (i.e., it must require that one knows the course material to answer it correctly and it must be of average difficulty). Otherwise, students will receive a 0% grade for that particular question.

To up the ante, particularly thoughtful and well-formed MC questions may actually be used on either the Midterm or Final Exam. Thus, not only will the student who creates these questions receive a 0.25% grade, but they will know the answer to that particular question on the exam, and thus also receive additional benefit! **LATE MCs WILL NOT BE ACCEPTED.**

Team Video Presentations (20% of final mark):

For this project, you will self-assemble into small groups of individuals (e.g., 2-4; this number is subject to change depending on total course enrolment). For this project, you and your team will choose a research article in a particular content area (a list of potential articles will be provided with each of Lectures 12-16). **Research articles cannot be duplicated between groups. Therefore, topics will be selected on a first-come first-serve basis and must be approved by me.** This project will challenge you to think critically and apply the knowledge you have

acquired from the entire course in an applied context. Such a task is highly relevant to many of the possible career paths associated with a university degree in Psychology, the Life Sciences, and related disciplines.

You and your team will be required to complete this project outside of class time.

- 1. Video Content:** Your team will be required to read one of the research articles provided and produce a (hopefully) creative video presentation that addresses each of the following (this is not meant to be an exhaustive list of aspects you can include):
 - What was known before your selected research article and what particular gap in knowledge did the experiment(s) address? (note that providing this adequate background for the viewer may require you to read a few key papers from previous work cited in the article)
 - What was the specific research question asked and why (at the time) was it important, timely or novel?
 - What specific task and analysis methods were used?
 - What did the authors find?
 - Why are these results important in this particular research area? How do they fit within the larger literature on this topic?
 - What are some of the limitations in the methods used and/or conclusions drawn?

Note that visual aids, including diagrams, article figures, and/or animations etc. should be incorporated into your video to effectively convey your understanding of the article. You will also be graded on your ability to take complex ideas, research questions and approaches, and distil them so that they are easy-to-follow and readily comprehensible to non-experts in this area (this will require some thought on your part). You should also strive for your video presentation to be entertaining and engaging.

- 2. Format Guidelines:** Each video should be 8-10 minutes in length (no shorter or longer) and ***all groups members must talk in the video at least once***. There are lots of free video editing programs to allow you to finalize your video presentation (most computers include a program capable of doing this) and most of you, I am assuming, have smart phones with video recording capability.
- 3. Submission Guidelines:** Each team's video presentation will need to be uploaded to Youtube on a date that is to be announced and the link to be provided. Failure to do so will result in a late penalty.
- 4. Grading:** Your total grade (20%) for this team project will determined by the TA(s) and me, based on how well the criteria in #1 are met. Note that content derived from the video presentations is fair game for the Final Exam and thus, attending the video presentations of your peers will prove to be in your benefit (*Hint Hint!*).

Research Proposal (15% of final mark):

You will be required to read one of the articles provided (note that these are a separate set of articles from the Video presentation articles) and design a follow-up experiment to the study that builds on those previous findings but which could, in principle, provide its own novel contribution to the literature. In only 2 pages, you will be expected to:

- Briefly convey your selected article's findings and provide motivation/justification for your own, follow-up experiment (in the context of the previous literature). You must

demonstrate why your own experiment is important, novel and/or addresses a key research question in the field.

- Briefly outline your experimental task and how the data will be analyzed
- Outline your hypothesis (as well as hypothetical results) and indicate what, if confirmed, your findings would demonstrate
- Include no more than one figure (which can be multi-paneled) in your proposal

Note that all the text should fit onto both pages ($\frac{3}{4}$ margins, minimum 11 pt font, single-spaced max)! The single figure (with associated figure caption, of no more than 300 words) is to be included on a separate page. Other than these criteria, there are no formatting requirements. However, you will probably find it beneficial to use subheadings, underlining and boldface throughout to direct the reader's attention to your key points and sections. Also, note that this 2-page research summary proposal **is worth 15% of your final mark (!!!) and so it should be thoughtfully constructed, easy-to-follow and heavily edited (underline heavily). Being able to write a concise and engaging 2-page summary that nearly anyone can understand (perhaps even your grandmother) is one of the most important (yet poorly emphasized) skills one can acquire in the sciences (and, indeed, in most other career paths). It takes a great deal of thought and effort to do well. The purpose of this exercise, in addition to applying the course knowledge and forcing you to think creatively, is to help you further develop this critical skill. Due to the space limitations, you will need to think carefully about what details to include versus exclude, such that your reader has all the necessary content information to understand the scientific details of your proposal while, at the same time, appreciating why your proposal is novel and important. Your proposal will be evaluated by the TA, and so it should be written at a level for someone who has working knowledge of fMRI (e.g., there will be no need to describe a GLM, etc.)

Proctored Exams

Timing of Final Examinations

Once the exam schedule has been finalized, the exam date will be posted on your SOLUS account. 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 on SOLUS immediately prior to Thanksgiving and on the Friday before Reading Week for the Winter Term. 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. For information regarding what is considered extenuating circumstances and qualifications for Academic Consideration, please visit the Faculty of Arts and Science's Academic Consideration webpage.

If you are unable to attend an exam and receive approval for a deferred proctored exam, a further deferral of that exam will not be accommodated.

For Accommodations/Considerations, please contact psyc.accom@queensu.ca

Assignment Late Policy

5% shall be deducted from an assignment for each day, or portion thereof, if it is late (including weekends). **The absolute last day to submit a late assignment in this course is December 3rd**. Anything that arrives after this will not be accepted without permission of the instructor.

Students with letters of accommodation should, if possible, confirm the implementation of their accommodations prior to the listed due date. Please see the "Accommodations for Disabilities" section of this syllabus for more information.

Students experiencing short-term extenuating circumstances that are beyond their control and may affect their academic work should submit a request to their faculty office for academic consideration. Please see the “Academic Considerations for Students in Extenuating Circumstances” section of this syllabus for more details.

Policy Review of Graded Work

Requests for assignment regrading may be made to your TA 48 hours after you have received the marked copy of your assignment, but no more than 10 days later. Be sure to read your TA’s feedback carefully before you submit a review of graded work. To request that your assignment be reviewed, please include the following in your email:

- Your name, student number, and TA’s name.
- The original copy of your marked assignment, attached.
- Your reason for the request:
 - The specific aspects of your assignment that you believe were not sufficiently awarded, referring to the categories of the rubric.
 - Why you believe that your assignment meets the criteria for a higher mark for each of the categories of the rubric that you indicated above. Please make explicit reference to the detailed descriptions of each category provided in the rubric.

If a review of graded work results in only a slightly different final grade, the original grade will stand. Should we find an error where marks were not assigned when they should have been or were missed in adding up the total score or were added up incorrectly resulting in a higher score than earned, the grade will be changed so that it is accurate. Grades would only increase or decrease if there was evidence of an error in marking, not simply because the regrader interprets or applies the rubric slightly differently than the original grader.

Policies

Class Attendance

Your presence and participation in class contributes to the knowledge and skills that you will develop throughout this course. I expect that you attend class regularly, participate in class conversations and learning activities. These types of activities provide active engagement, promote a deeper understanding of the course content, and contribute to your success in this course.

Academic Support

All undergraduate students face new learning and writing challenges as they progress through university: essays and reports become more complex; effectively incorporating research into writing becomes more important; the types of assignments become more diverse; managing your time and developing the skills you need to read and think critically gets more challenging. I encourage students to contact Student Academic Success Services (SASS). SASS offers many different ways to receive support:

- Free online or in-person appointments to get personalized support on writing and academic skills from expert staff and trained peers.
- Workshops and drop-in programs. SASS’ Events Calendar lists events coming soon.

- Online resources that provide strategies for academic skills and writing development at university.
- If English is not your first language, SASS has specific resources for English as Additional Language students, including weekly programs and EAL academic skills appointments. You can meet on an ongoing basis with an EAL consultant to work on your academic writing, speaking, listening, and reading skills.

Accommodations for Disabilities

Queen's University is committed to working with students with disabilities to remove barriers to their academic goals. Queen's Student Accessibility Services (QSAS), students with disabilities, instructors, and faculty staff work together to provide and implement academic accommodations designed to allow students with disabilities equitable access to all course material (including in-class as well as exams). If you are a student currently experiencing barriers to your academics due to disability related reasons, and you would like to understand whether academic accommodations could support the removal of those barriers, please visit the QSAS website to learn more about academic accommodations or start the registration process with QSAS by clicking **Access Ventus** button at **Ventus | Accessibility Services | Queen's (queensu.ca)**

VENTUS is an online portal that connects students, instructors, Queen's Student Accessibility Services, the Exam's Office and other support services in the process to request, assess, and implement academic accommodations.

To learn more go to: <https://www.queensu.ca/ventus-support/students/visual-guide-ventus-students>

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 Illness or Injury (stomach flu, anxiety/depression, mononucleosis, concussion, broken bones, surgery, medical treatments, etc.)
- Traumatic Event/Confidential (Bereavement, serious injury, illness or required treatment for a significant other/family member or a traumatic event such as divorce, sexual assault, social injustice, etc.)
- Requirements by Law or Public Health Authorities (court dates, jury duty, requirements to isolate, etc.)
- Significant Event (varsity athletic event, distinguished event, serving in the Reserve Forces, 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. For more information, undergraduate students in the Faculty of Arts and Sciences should consult the Faculty's webpage on Academic Consideration in Extenuating

Circumstances and submit a request via the [Academic Consideration Request Portal](#). Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their instructor and/or course coordinator as soon as possible once academic consideration has been granted. Any delay in contact may limit the options available for academic consideration.

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 the Faculty of Arts and Science's [Academic Consideration website](#). ASO courses include links to information on **Academic Consideration** on your **Course Homepage** in onQ.

Please see the Teaching Team page for contact information for your instructor and TA(s), where relevant.

Queen's Policy Statement on Academic Integrity

Queen's University is dedicated to creating a scholarly community free to explore a range of ideas, to build and advance knowledge, and to share the ideas and knowledge that emerge from a range of intellectual pursuits. Queen's students, faculty, administrators and staff therefore all have responsibilities for supporting and upholding the fundamental values of academic integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility and by the quality of courage. These values and qualities 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.

The following statements from "The Fundamental Values of Academic Integrity" (2nd edition), developed by the International Center for Academic Integrity (ICAI), contextualize these values and qualities:

1. **Honesty** Academic communities of integrity advance the quest for truth and knowledge through intellectual and personal honesty in learning, teaching, research, and service.
2. **Trust** Academic communities of integrity both foster and rely upon climates of mutual trust. Climates of trust encourage and support the free exchange of ideas which in turn allows scholarly inquiry to reach its fullest potential.
3. **Fairness** Academic communities of integrity establish clear and transparent expectations, standards, and practices to support fairness in the interactions of students, faculty, and administrators.
4. **Respect** Academic communities of integrity value the interactive, cooperative, participatory nature of learning. They honor, value, and consider diverse opinions and ideas.
5. **Responsibility** Academic communities of integrity rest upon foundations of personal accountability coupled with the willingness of individuals and groups to lead by example, uphold mutually agreed-upon standards, and take action when they encounter wrongdoing.
6. **Courage** To develop and sustain communities of integrity, it takes more than simply believing in the fundamental values. Translating the values from talking points into action

-- standing up for them in the face of pressure and adversity — requires determination, commitment, and courage.

Students are responsible for familiarizing themselves with and adhering to the Senate regulations concerning academic integrity, along with Faculty or School specific information. Departures from academic integrity include, but are not limited to, plagiarism, use of unauthorized materials, facilitation, forgery and falsification. Actions which contravene the regulation on academic integrity carry sanctions that can range from a warning, to loss of grades on an assignment, to failure of a course, to requirement to withdraw from the university.

Syllabus statements for Generative Artificial Intelligence (AI) Tools

Students must submit their own work and cite the work that is not theirs. Generative AI writing tools such as ChatGPT are welcome in this class, provided you cite the material that they generate. Any other use constitutes a Departure from Academic Integrity.

Queen's Student Academic Success Services (SASS) offers a self-directed, online academic integrity module which we encourage all students to take which will help with:

- Understanding the nature of the academic integrity departure
- Understanding the expectations of and role of sources in scholarly writing
- Integrating sources into your writing (paraphrasing, quoting, summarizing)
- Understanding when and how to cite your sources
- Managing your time effectively to avoid the need for shortcuts
- Taking effective notes to ensure accuracy of source material and correct attribution

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 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 plagiarized text in this course. Data from submissions is also collected and analyzed by Turnitin for detecting Artificial Intelligence (AI-generated text). These results are not reported to your instructor at this time but could be in the future.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. The similarity report generated after an assignment file is submitted produces a similarity score for each assignment. A similarity score is the percentage of writing that is similar to content found on the internet or the Turnitin extensive database of content. 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 Policy, Acceptable Use Policy and End-User License Agreement, 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.

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