

Modern Scientific Communication

CHEM5804A/FOOD5804A

<p>Course Instructor: Daniel Grégoire</p> <p>How to address me: Daniel</p> <p>Gender Pronouns: (he/him/his) (learn more)</p> <p>Email: DanielGregoire@cunet.carleton.ca</p> <p>Note: If you have question or would like to talk with me, you can send an email, approach me during class time, or set up an appointment to talk. I will do my best to answer emails within 48 hours, Mon-Fri, 9AM-5PM.</p> <p>Phone: (613) 520-2600 ext. 3883</p> <p>Drop-in Hours: Please email to set up an appointment.</p>	<p>Office Location: 419 Steacie Building</p> <p>Click here for visual directions.</p> <p>Modality: In person</p> <p>Class Location: River Building 3110</p> <p>Click here for visual directions.</p> <p>Class Times: Tuesday & Thursday, 11:35 AM – 12:55 PM</p> <div style="border: 2px dashed red; padding: 5px; margin-top: 10px;"> <p>What are 'Drop-in Hours'?</p> <p><i>Drop-in hours are dedicated times through the week for the course instructor to meet with YOU. Pop in to introduce yourself, ask questions, or discuss content from the course.</i></p> </div>
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Welcome to this Course!

Course description

Communication and other skills useful for chemistry graduates. Effective manuscript writing, creating graphics, CV development, networking, science communication, use of social media, outreach, EDI considerations.

Includes: Lectures, workshops, written assignments, presentations, reflection piece

Course objectives

My main objective is to give students an opportunity to practice different types of communication formats they will encounter in academia, the private sector, or the public sector. I have structured this course to start with defining the expectations students have for the class. From there, I'd like to build a foundation of cover materials that can be tailored to different employment opportunities and communication strategies. I want students to understand how they can summarize their professional experience using different media formats to build their professional networks. Students will also focus on developing their capacity to critically evaluate the literature, carry out peer review, and apply these skills towards grant writing. Students will practice short form communications and learn how these types of communication strategies can make science more accessible. Students will finish by reflecting on how their skills have grown over the course of the semester and what facets of the class could be improved in future iterations.

The **learning outcomes** for the course are based on preliminary learning outcomes that are being revised for graduate degrees in Chemistry at Carleton. The main learning outcomes for the graduate programs and sub learning outcomes associated with this class are:

LO1. Formulates hypotheses, designs and conducts experiments that expand knowledge in chemistry and its subfields	A) Describes the limit of knowledge in their field and subfield
LO3. Effectively communicates, orally, and in writing, research findings to peers, scientists, and non-scientists	A) Accurately summarizes and communicates complex scientific topics to non-experts in written and oral formats using modern communication tools B) Accurately communicates complex scientific information to peers, experts, government stakeholders, and industry leaders via memos, executive summaries, technical reports, seminars, and publications
LO4. Cooperates with team members and external collaborators with professional autonomy, including teaching and mentoring	C) Connects professionally with external partners (e.g., other institutions, industry, community groups) to advance research, expand professional network, or develop collaborative opportunities D) Participates in the process of peer review of classmates' oral and/or written work
LO5. Conducts themselves in an ethical manner	D) Identifies systemic barriers faced by members of marginalized groups and develops actionable strategies to remove these barriers in a research environment
LO6. Applies interdisciplinary approaches to propose viable solutions to complex societal problems	A) Describe how diverse science topics and experiences impact different areas of research B) Describe the role(s) of entrepreneurship, commercialization, regulation, or policies in one's research area C) Evaluates the individual, societal, and environmental impacts of one's research
LO7. Develops as a professional	B) Participates in professional and pedagogical development opportunities (e.g., workshops, bootcamps, hackathons, competitions) to tailor graduate degree to personal career interests C) Drafts and maintain an academic CV D) Writes a cover letter

Community Guidelines

In our course, we will seek to behave according to the International Center for Academic Integrity^{*}.

	As students, we will...	As a teacher, I will...
Honesty	<ul style="list-style-type: none"> Honestly demonstrate our knowledge and abilities on assignments and exams Communicate openly without using deception, including citing appropriate sources 	<ul style="list-style-type: none"> Give you honest feedback on your demonstration of knowledge and abilities on assignments and exams Communicate openly and honestly the expectations and standards of the course through the syllabus
Responsibility	<ul style="list-style-type: none"> Complete assignments on time and in full preparation for class Show up to class on time, and be mentally/physically present Participate fully and contribute to team learning and activities 	<ul style="list-style-type: none"> Give you timely feedback on your assignments and exams Show up to class on time, and be mentally & physically present Create relevant assessments and activities
Respect	<ul style="list-style-type: none"> Speak openly with one another, while respecting diverse viewpoints and perspectives Provide sufficient space for others to voice their ideas 	<ul style="list-style-type: none"> Respect your perspectives even while we challenge you to think more deeply and critically Help facilitate respectful exchange of ideas
Fairness	<ul style="list-style-type: none"> Contribute fully to collaborative work, so that we are not freeloading off of others Not seek unfair advantage over fellow students in the course 	<ul style="list-style-type: none"> Create fair assignments and exams, and grade them in a fair, and timely manner Treat all students equitably
Trust	<ul style="list-style-type: none"> Be open and transparent about what we are doing in class Not distribute course materials to others without authorization 	<ul style="list-style-type: none"> Be available to all students when we say we will be Not modify the expectations without communicating with everyone in the course
Courage	<ul style="list-style-type: none"> Say or do something when we see actions that undermine values above Accept a lower or failing grade or other consequences of upholding and protecting the above values 	<ul style="list-style-type: none"> Say or do something when we see actions that undermine any of the above values Accept the consequences (e.g., lower teaching evaluations) of upholding and protecting the above values

² This class statement of values is adapted from Tricia Bertram Gallant, Ph.D.

Inclusive teaching statement

Equity, diversity, and inclusion are crucial to driving innovation by bringing people with diverse lived experiences together. I am committed to fostering an environment for learning that is inclusive for everyone regardless of gender identity, gender expression, sex, sexual orientation, race, ethnicity, ability, age, class, etc. I welcome emails or in-person communications to let me know your preferred name or pronoun. I will continually strive to create inclusive learning environments and would therefore appreciate your support and feedback.

Land Acknowledgement

Here at Carleton University, it is important that we acknowledge that the land on which we gather is the traditional and unceded territory of the Algonquin nation.

Learning Materials

Technology Checklist:

- An internet-enabled computer (laptop/desktop)
- Wooclap installed on your computer or phone
(<https://carleton.ca/brightspace/instructors/wooclap/>)
- Access to a video camera for recording purposes (webcam, phone, etc).

Options exist for students who do not have access to these resources. Options include financial aid from Carleton, inexpensive options for technology (Best Buy refurbished products, Kijiji), & single workspaces available for student use on campus.

Assessment in this Course

Research about learning strongly suggests that the most important factor in learning is doing the work of reading, writing, recalling, practicing, synthesizing, and analyzing. Learning happens best when people actively engage with material on a consistent basis, and that is why we have high standards in this course. We are confident that, with appropriate effort, you **all** can meet those standards.

We also make an effort to reduce unintentional bias in grading by, for example and when possible, grading assignments one question at a time (grading all of question 1 before grading any of question 2), grading anonymously, and using rubrics.

Grade Breakdown

Assignment name	Individual or group work/submission	%	Grade or SAT/UNSAT	Due Date
Academic cover materials	Individual	5%	SAT/UNSAT	Sept 17 th
Article critique	Individual	10%	SAT/UNSAT	Sept 26 th
Abstract assignment	Individual	15%	Grade	Oct 17 th
Scientific poster and flash talk	Individual	15%	Grade	Nov 12 th
Briefing note	Individual	15%	Grade	Nov 19 th
Pitch	Individual	15%	Grade	Dec 3 rd and 5 th
One pager	Individual	5%	Grade	Dec 6 th
Reflection piece	Individual	10%	SAT/UNSAT	Dec 21 st
Participation	Individual	10%	SAT/UNSAT	

All times for when assignments are due will be posted on Brightspace alongside assignment instructions unless they are submitted at the end of class. These times may be subject to change depending on progress made in the class.

Assignments

This course is designed to give students time in class to work on their assignments and receive feedback from peers and the instructor prior to submission. Students who complete readings in advance of class, participate in discussions, and work through their assignments as we go through course material will be positioned for success in this class. There is no cumulative final exam but there is a final assignment due during the exam period. **You must submit all assignments for grading to pass this class.**

Academic cover materials

Developing academic cover materials will provide you with a foundation you can build on as we go through the class, and you complete your degrees. Allocating small amounts of time to keep these materials up to date will make job hunting much easier in the future. Having up to date cover materials is also essential to conducting informational interviews with potential employers or collaborators. Students will submit a draft of their academic CV and cover letter to receive feedback.

Article critique

Participating in peer review of published scientific articles is a crucial component of research. As you progress in your research careers, you will be asked to review as your expertise grows. This is why developing a reproducible framework based on key screening questions is essential to carrying out peer review in a constructive and time efficient manner. Many of the questions you would use in peer review will also help you critically evaluate the literature associated with your own field and anticipate comments when you submit one of your own articles. This assignment will have students critique 1 of 3 scientific articles of their choice that represent subdisciplines related to chemistry research happening at Carleton using a formal peer review framework.

Abstract assignment

Summarizing your research effectively is crucial for sharing information with other experts in the field and highlighting the importance of your work. Written abstracts, importance sections, and graphical abstracts are often the first part of your work people with interact with. This assignment will build on guest lectures showcasing principles of graphic designing and abstract writing and give students a chance to receive feedback on summary materials describing their research or thesis topics. This will lay the foundation for the next assignment leveraging these materials as part of a scientific poster and short talk.

Scientific poster and flash talk

Scientific posters are a common way to disseminate research in conference settings. Scientific posters are increasingly accompanied by flash talks, which give poster presenters the chance to advertise their work to attendees, so they come visit the poster later. This assignment gives students a chance to create a poster and receive feedback on a flash talk they could use to convey their research at a conference in the future.

Briefing note to a policymaker

You will write a briefing note based on a case study that highlights concerns related to the use of the toxic chemical dichloromethane. A briefing note is a common way for regulatory and industry scientists to synthesize and present evidence to decision makers. This may be

a new form of communication for many students, but it is a valuable tool used in regulatory toxicology. The purpose of this assignment is to hone your ability to synthesize information for a general audience, communicate uncertainty, and consider the socioeconomic impacts of chemicals and why they require regulation.

Pitch and one pager

Pitching is a common format used in the private sector to seek investments to solve an urgent problem. In the public sector, pitching can be an effective way to highlight a regulatory need that should be addressed. In academia, pitching is a great way to showcase your research and build collaborations outside of your field. Pitches are often accompanied by a “one-pager”. This one pager can be anything from a summary of results, a short progress report, or a new project idea that is shared with other people to get up to speed on your idea. This assignment will have students give a 5 min pitch on how their research or research adjacent to their field of expertise can solve a pressing problem. This assignment will help student connect their research to potential socioeconomic impacts and get familiar with presentations useful for building industry and government collaborations.

Reflection piece

This course is designed to help graduate students generate examples of communication materials they can build on throughout their degree. These assignments are also connected to learning outcomes that are being revised to guide graduate student learning and professional development at Carleton. This assignment will require that students write a short reflection piece discussing whether they met the learning outcomes of the class, which transferrable skills they acquired, and how assignments could be improved in the future. I recommend reflecting on assignments after they are submitted or while after you've received feedback to make sure the thoughts are fresh in your mind.

Participation

Attendance and active participation are expected from all students. Your participation will be measured through group discussions linked to work in class, participating in collegial peer review, and leading discussions about your presentations.

Course Outline

Week	Dates	Title	Summary	Learning activities	Assignments
1	Sept 5 th	What will we learn in modern scientific communication?	This will be an introduction that summarizes the LOs and assessments for this class. This class will highlight how the tools seen in class differ from traditional presentation formats.	Lecture and brief group discussion	Assign reflection piece
2	Sept 10 th	How do you apply for academic jobs?	This class will highlight the different materials required for academic jobs. This class will give an overview of how to write an academic CV and cover letter.	Lecture and group discussion	Assign academic CV and cover letter
2	Sept 12 th	How do you translate cover materials for the public and private sector?	This class will focus on how to extract key information from different job postings, where to find postings, and how to translate cover materials for different sectors.	Lecture and group discussion	
3	Sept 17 th	How do you write a manuscript?	We will go through the building blocks of different article formats. We will also highlight other types of publications students are perhaps not familiar with (e.g., comments, news and views, data papers).	Lecture with group discussion	Submit academic CV and cover letter (5%)
3	Sept 19 th	How do you carry out peer review of a manuscript?	This class will provide a framework for peer review. Examples will be taken from the literature to demonstrate how to critique publications.	Lecture with group discussion about formal peer review	Assign article critique
4	Sept 24 th	How do you write a grant?	This class will provide an overview of how to write grants for scholarships. Examples will be provided from successful grants to support scholarship applications.	Lecture with Q&A about grant writing	
4	Sept 26 th	How do I write abstracts for different purposes?	This class will focus on how to summarize information from a scientific article. This class will show students the longer format conference abstract often required for travel awards.	Lecture and think pair share to workshop abstracts	Submit article critique (10%) Assign abstract assignment
5	Oct 1 st	How can I use visual aids to summarize my research?	This class will highlight principles of graphic design, how to make infographics, and draft graphical abstracts to summarize research.	Guest lecture led by Sean Landsman	
5	Oct 3 rd	How can we improve our peer review and graphical abstracts?	This class will focus on discussing the peer reviews submitted and evaluating graphical abstracts associated with the assigned articles.	Group discussion	

6	Oct 8 th	Graphical abstract presentations 1	This class time will be dedicated so students can present their graphical abstracts and receive feedback.	Student-led presentations and group discussion	
6	Oct 10 th	Graphical abstract presentations 2	This class time will be dedicated so students can present their graphical abstracts and receive feedback.	Student-led presentations and group discussion	
7	Oct 15 th	In-class time to complete abstract assignment	This class time is reserved for students to incorporate peer review prior to the final submission of their abstract assignments.		Time will be provided to work on abstracts
7	Oct 17 th	What goes into a scientific poster?	This class will highlight the design elements of a scientific poster and how to use posters as a networking tool in conference settings. This lecture will also highlight flash talks that sometimes accompany posters at large conferences.	Lecture and group discussion with demonstrations of flash talks	Submit abstract assignment (15%). Assign poster and flash talk
8	BREAK				
9	Oct 29 th	In-class time to work on posters	This class will be reserved for students to work on posters and offer each other feedback.	Think pair share to receive feedback on poster drafts.	Time will be provided to work on posters
9	Oct 31 st	Poster session 1	This class time will be dedicated to a symposium poster session with flash talks where students will receive feedback.	Student-led presentations	
10	Nov 5 th	Poster session 2	This class time will be dedicated to a symposium poster session with flash talks where students will receive feedback.	Student-led presentations	
10	Nov 7 th	In-class time to complete poster and flash talk	This class time is reserved for students to incorporate feedback peer review on poster and flash talk assignment.		Time will be provided to work on posters
11	Nov 12 th	What is a briefing note?	This class will present a short communication style common in the government and highlight how it differs from communication formats seen thus far.	Lecture and practice evaluations for briefing notes	Submit poster and flash talk (15%) Assign briefing note
11	Nov 14 th	In-class time to work on briefing notes	This class time will be dedicated so students can work on their briefing notes.	Think pair share to receive feedback on briefing notes	Time will be provided to work on briefing notes
12	Nov 19 th	How can I communicate science to journalists?	This class will focus on how to translate scientific information for a general audience and the journalistic resources the public uses to access information.	Guest lecture from Sarah Everts from the School of Journalism with a group discussion	Submit briefing notes (15%)
12	Nov 21 st	How can I pitch ideas to industry?	This class will provide an overview of pitching as a communication style and how it differs from previous formats seen in class.	Lecture and group discussion with pitching demo	Assign pitch and one pager

13	Nov 26 th	How do you build a professional network?	This class will start with an overview of the briefing note assignment. Afterwards, there will be a short workshop focussed on networking using some of the communication strategies seen in class.	Group discussion followed by a workshop	
13	Nov 28 th	In-class time to work on pitches	This class time will be reserved to work on pitches.	Think pair share to receive feedback on pitches	Time will be provided to work on pitches
14	Dec 3 rd	Pitch day 1	This class time is reserved for pitching presentations.	Student-led presentations.	Submit pitch (15%)
14	Dec 5 th	Pitch day 2	This class time is reserved for pitching presentations.	Student-led presentations.	Submit pitch (15%)
14	Dec 6 th				Submit one pager (5%)
	Dec 21 st				Submit Reflection piece (10%)

Feeling Sick?

Remaining vigilant and not attending work or school when sick is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

If you cannot attend a class, I will do my best to accommodate your absence and share course materials with you in an accessible format to make sure you are up to date. I try to share all slides in advance of class and provide presenter notes that contain the key message for every slide. I can also send a zoom link in advance on a case-by-case basis to make sure my class is accessible remotely.

Note About Mental Health

If you are struggling, please do not hesitate to reach out. I am happy to listen, and/or direct you to resources that might help. In terms of class, if you need extra help or missed a lesson, don't stress! Email me and we will set a time to meet. I'll work with you, I promise. Remember that Carleton also offers an array of mental health and well-being resources, which can be found [here](#).

University Policies

In accordance with the Carleton University Undergraduate Calendar Regulations, the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A- = 80-84	B- = 70-72	C- = 60-62	D- = 50-52
F = <50			

WDN = Withdrawn from the course

ABS = Student absent from final exam

DEF = Deferred

FND = (Failed, no Deferred) = student could not pass even with 100% on final exam

Academic Accommodations, Regulations, Plagiarism, Etc.

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<https://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre website](#).

Addressing Human Rights Concerns

The University and all members of the University community share responsibility for ensuring that the University's educational, work and living environments are free from discrimination and harassment. Should you have concerns about harassment or discrimination relating to your age, ancestry, citizenship, colour, creed (religion), disability, ethnic origin, family status, gender expression, gender identity, marital status, place of origin, race, sex (including pregnancy), or sexual orientation, please contact the Department of Equity and Inclusive Communities at equity@carleton.ca.

Religious Obligations

Please contact me with requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the Student Guide to Academic Accommodation (PDF, 2.1 MB).

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/sexual-violence-support/>

Accommodations for Missed Work

Carleton has put into place a protocol for students to apply for accommodations using the Academic Consideration for Coursework form which can be found at: <https://carleton.ca/registrar/academic-consideration-coursework-form/>. These forms should only be used for short-term concerns related to missed work; if you are experiencing chronic, ongoing challenges which necessitate a broader solution, I recommend reaching out to the Paul Menton Centre and/or the Care Support team.

My personal policy for this class is that **you can hand in one assignment 48 hours after the due date with no penalty and no questions asked**. Please note that **this policy does not apply to the pitch, one pager, and reflection piece assignments**, which must be submitted on the due dates to ensure final marks are entered in time. 10 % of the total marks for each assignment will be removed for every week an assignment is late, up to a maximum of two weeks, after which point submissions will not be accepted.

For Pregnancy

Please contact me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please see the [Student Guide to Academic Accommodation \(PDF, 2.1 MB\)](#).

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the [Senate Policy on Accommodation for Student Activities \(PDF, 25KB\)](#).

Statement on Chat GPT/Generative AI usage

Moderate Use - Content Generation with Attribution

AI Use in this course: Students may use AI tools for sharing ideas, clarifying challenging concepts, or getting started on projects. Some acceptable uses include:

- Brainstorming ideas (e.g., generating essay topics with ChatGPT, using Microsoft Word's Smart Lookup to find inspiration and related topics)
- Creating outlines (e.g., using AI to structure an essay or presentation flow, using Microsoft Word's Outline View with AI suggestions)
- Providing definitions or explanations of complex concepts (e.g., using AI to explain a difficult theory, e.g., using Microsoft Word's Researcher tool to find relevant information)

Documenting Use of AI: It is necessary to document your use of AI in this course, using the following guidelines:

- Clearly identify and cite AI-generated text (e.g., 'The following paragraph was generated by ChatGPT/Microsoft Word's Researcher tool')
- Review, edit, and ensure accuracy and originality of final submissions
- AI-generated content should not exceed 30% of the total assignment length

Why have I adopted this policy? This policy supports the use of AI as a supplementary tool, helping students develop ideas and structure their work while emphasizing the importance of transparency and personal engagement with the content. AI can be used for inspiration and foundational support and can encourage students to critically assess and refine AI-generated material.

Academic Integrity

Academic Integrity is upholding the values of honesty, trust, respect, fairness, responsibility, and courage that are fundamental to the educational experience. Carleton University provides supports such as academic integrity workshops to ensure, as far as possible, that all students understand the norms and standards of academic integrity that we expect you to uphold. Your teaching team has a responsibility to ensure that their application of the Academic Integrity Policy upholds the university's collective commitments to fairness, equity, and integrity.

(Adapted from [Carleton University's Academic Integrity Policy](#), 2021).

Examples of actions that do not adhere to Carleton's Academic Integrity Policy include:

- Plagiarism
- Accessing unauthorized sites for assignments or tests
- Unauthorized collaboration on assignment and exams

Please review the checklist [linked here](#) to ensure you understand your responsibilities as a student with respect to academic integrity and this course.

Sanctions for Not Abiding by Carleton's Academic Integrity Policy

A student who has not upheld their responsibilities under Carleton's Academic Integrity Policy may be subject to one of several sanctions. A list of standard sanctions in science can be found [here](#). Additional details about this process can be found on the [Faculty of Science Academic Integrity website](#). Students are expected to familiarize themselves with and follow the Carleton University [Student Academic Integrity Policy](#). The Policy is strictly enforced and is binding on all students.

Student Rights & Responsibilities

Students are expected to act responsibly and engage respectfully with other students and members of the Carleton and the broader community. See the [7 Rights and Responsibilities Policy](#) for details regarding the expectations of non-academic behaviour of students. Those who participate with another student in the commission of an infraction of this Policy will also be held liable for their actions.

Student Concerns

If a concern arises regarding this course, **your first point of contact is me**: Email or drop in during student hours and I will do my best to address your concern. If I am unable to address your concern, the next points of contact are (in this order):



Note: You can also bring your concerns to [Ombuds services](#).

Assistance for Students

Academic and Career Development Services: <http://carleton.ca/sacds/>

Writing Services: <http://www.carleton.ca/csas/writing-services/>

Peer Assisted Study Sessions (PASS): <https://carleton.ca/csas/group-support/pass/>

Math Tutorial Centre: <https://carleton.ca/math/math-tutorial-centre/>

Science Student Success Centre: <https://sssc.carleton.ca/>