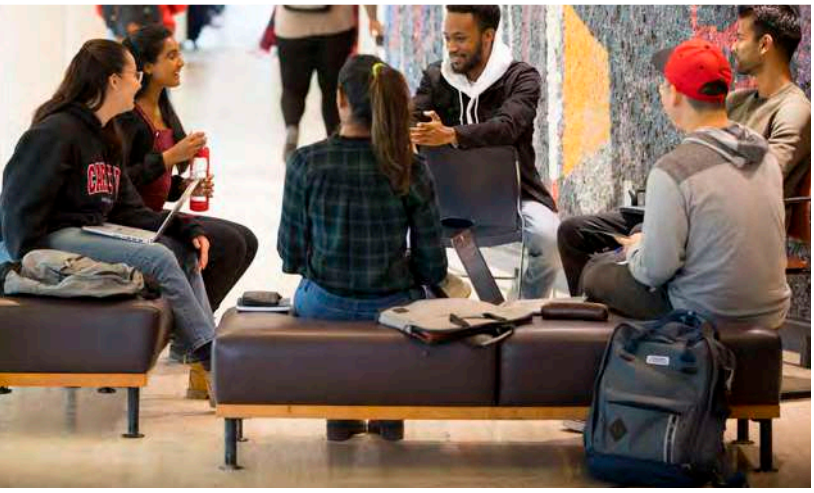
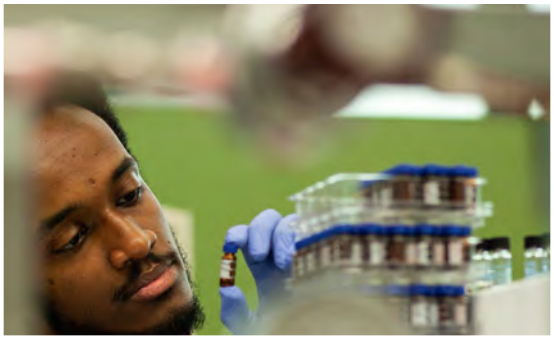


Carleton University 2021



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Begin your journey at
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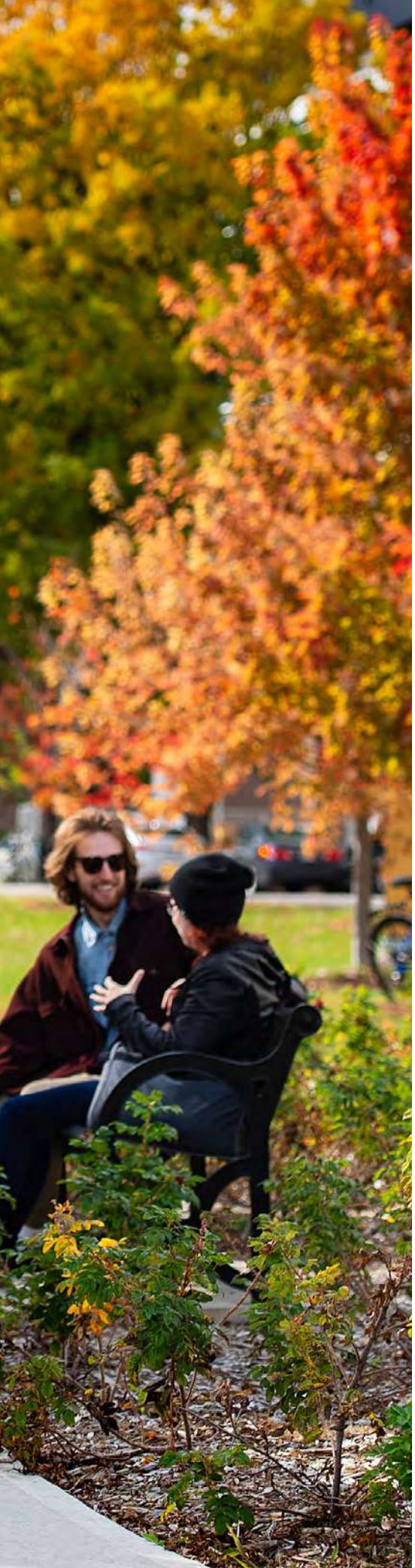

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Your story starts here

Carleton University is a dynamic and innovative university with a strong commitment to teaching, learning, research and student experience. Our academic programs, capital location, career focus and global possibilities provide countless opportunities for learning to happen both inside and outside of the classroom.

Carleton is committed to leveraging the power of higher education to be a force for good. This founding value is at the heart of the university's pursuit to share knowledge, strengthen community engagement and to play a leadership role in the wellness of our country and planet.

Ottawa is a city that matters. Our location in Canada's capital, anchors our aspirations to have an impact that goes far beyond the city limits. As an institution, we draw strength from this as we focus on responding to the emerging opportunities and challenges of our time.

Join over 31,000 students, 2,000 faculty and staff, 169,000 alumni and a community that cares deeply about your success. See for yourself all that Carleton has to offer.

Carleton University acknowledges the location of its campus on the traditional, unceded territories of the Algonquin nation.

Ben Hooker gained experience working for an MP on Parliament Hill while pursuing his studies in Carleton's Bachelor of Public Affairs and Policy Management.

The capital advantage

Carleton University is located in Ottawa, the nation's capital, offering opportunities you won't find anywhere else.

Known primarily as the seat of Canada's federal government, Ottawa is that and so much more. It is home to over 130 embassies and high commissions from around the world, as well as numerous national organizations and museums. A large percentage of Canada's major medical, clinical and life sciences research centres are located in the Ottawa area, as well as a technology industry with over 1,900 companies.

Ottawa is also one of the most beautiful capitals in the world, with a great number of neighbourhood parks and tranquil green spaces, waterways that wind through the city, and historical and architectural landmarks. The magnificent Gatineau Park, which features 165 km of hiking trails, is located in the National Capital Region.

Global perspective

We all want to make the world a better place—but how? At Carleton, we believe that global prosperity can be achieved by building sustainable communities, and that the link between the global and the local is at the heart of our endeavours as an academic community.

Carleton is known as a Canadian university of choice for international students and for encouraging all students to think globally. On campus, you'll study with student peers from over 150 different countries. Given the education of global citizens requires exposure to international and global experiences, we also offer many opportunities for students to study abroad.

Even if you choose not to study abroad, our location in the nation's capital and your experience on campus will provide you with the resources to build a global perspective.

The Carleton experience

Carleton's Industrial Applications Internship Option gives students like Gina Bak the unique opportunity to be a full-time Bachelor of Computer Science (BCS) student and a paid employee of Shopify, a multinational e-commerce company headquartered in Ottawa.

Experiential learning

In the classroom, we challenge your thinking and teach you the skills you need to succeed. Outside the classroom, we challenge you to apply your knowledge and skills to real-world situations. We do this through experiential learning.

Through experiential learning, you gain relevant experiences and skills, deepen your in-class learning and understand yourself better. Experiential learning shapes your career and academic goals, and gives you skills and knowledge to help you achieve them.

Carleton students participate in community service-learning with local and international partners, gain work experience through co-op and practicum placements, conduct research alongside award-winning professors and more.

Career focus

At Carleton, we work with you to shape a vision for your future. Our programs and support services focus on building your career starting in first year.

All of our programs will provide you with transferable skills in organization, communication, research, critical thinking, time management, problem solving and the ability to synthesize information. These skills are a great asset in today's constantly evolving job market. Most of our programs feature co-op, internship or practicum options, allowing you to expand your skillset and make valuable connections with employers.

Through on-campus career counselling and career services, we also help you set goals for your future. Then, we help you achieve them.

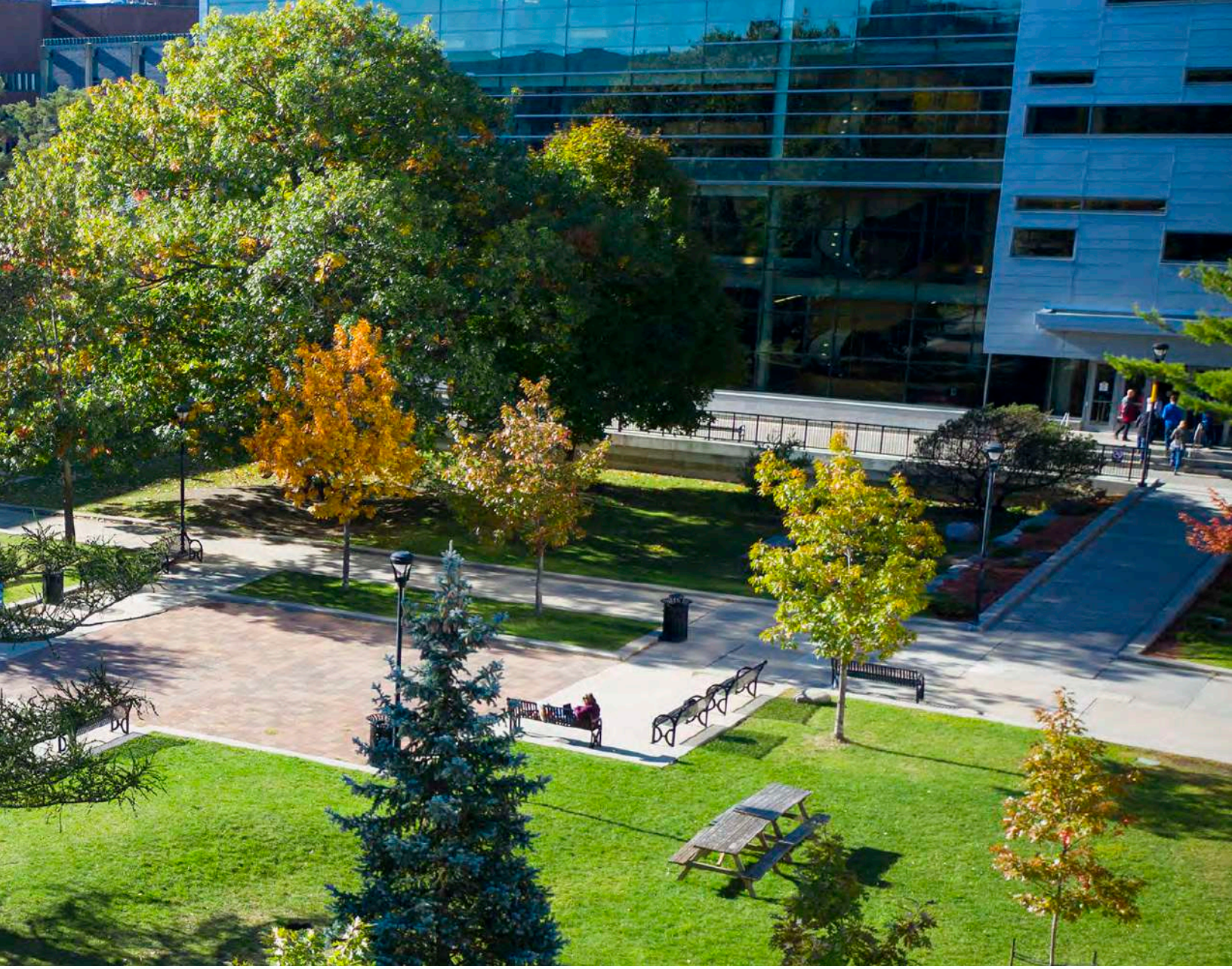
Become a Raven

Over
31,000
STUDENTS

TOP 5 in Canada for **STUDENT SATISFACTION***

24/7 access to
FREE MENTAL HEALTH COUNSELLING
though the Empower Me program

$80M
in external **RESEARCH FUNDING** 2019-20



Over **$24M** in **SCHOLARSHIPS** and bursaries awarded in 2019-20

#1 **MOST ACCESSIBLE** university in Canada for students with disabilities

35th **MOST SUSTAINABLE UNIVERSITY** in the **WORLD****

TOP 3 **BEST PLACES TO LIVE** in Canada***

CO-OP options available in **OVER 100 PROGRAMS**

14 **THERAPY DOGS** on campus

*Maclean's University Rankings 2020; **UI Green Metric University Rankings 2019; ***Moneysense: Canada's Best Places to Live 2017, 2018

Second-year students in Carleton's BAS Design get hands-on instruction while at work in first-rate studios.

Architectural Studies

carleton.ca/architecture | Co-op available

Carleton's Bachelor of Architectural Studies explores inventive and holistic problem solving in service to society. Our program encourages you to pursue ideas through making and to think about the spaces we inhabit. We want you to evaluate ideas within the context of human experience and understand social and environmental realities. Most critically, we want you to exercise creativity through writing, model making, drawing, digital fabrication and public presentations. The rigorous training you will receive is an excellent basis for numerous careers from architectural fields to policy, law, government, planning and the humanities.

Program of study

Carleton's Azrieli School of Architecture and Urbanism awards the pre-professional Bachelor of Architectural Studies (BAS) degree upon successful completion of our program of study. If you intend to practice architecture, you can then apply to continue into a professional Master of Architecture program at Carleton, or equivalent professional training at another university. The BAS program is also an excellent degree for a range of careers or for further studies in design, urbanism, or conservation and sustainability.

The program lays a broad foundation on which architectural studies are built. You will take courses in architecture, design, drawing and multimedia applications, as well as specified general studies in engineering, architectural history and social sciences.

You will focus your architectural studies on one of the following:

- BAS Design
- BAS Urbanism
- BAS Conservation and Sustainability

Excellent facilities

At Carleton, we feel that first-rate facilities are a necessity for any good project. Therefore, we are proud to offer the finest facilities in Canada. You can take advantage of:

- design studios with personal work space;
- professionally staffed fabrication facilities for woodworking, laser and CNC cutting, and welding;
- an assembly room for models and full-scale projects;
- a technical library and reading room; and
- extensive computer labs.

The Carleton advantage

At Carleton, you will be taught by internationally renowned faculty. You will also have the opportunity to participate in exciting research projects and study experiences that reach beyond the classroom.

The Carleton Immersive Media Studio (CIMS) is a Carleton University research centre for advanced studies in modelling and visualization using immersive, digital and hybrid media.

The Crossings Interdisciplinary Research Collective (CIRC) investigates the versatile and generative potential offered by nature's complex processes along with their related material, technological and architectural implications.

The Carleton Sensory Architecture and Liminal Technologies Laboratory (CSALT) explores architectural materiality and materials with a focus on innovative uses of traditional and emerging building materials and fabrication concepts.

The Directed Studies Abroad option allows you to study architecture on a two-week excursion to continental or overseas destinations, accompanied by a faculty member. The BAS program also offers international student exchanges to countries such as Australia, England, France, Spain, Germany, China and more.

Workshop courses on topics such as furniture design, digital fabrication, stage design, building information modelling (BIM), advanced structures and community development are offered throughout the year.

Carleton's Forum Lecture Series allows you to hear internationally acclaimed architects speak on a variety of topics.

The capital advantage

Located in the heart of the nation's capital, Carleton offers unique contact with organizations such as:

- Canada Mortgage and Housing Corporation
- Canada Science and Technology Museum
- Canadian Museum of History
- Library and Archives Canada
- National Capital Commission
- National Gallery of Canada
- National Research Council Canada

Career paths

- architecture
- urban design and city planning
- heritage conservation
- policy
- consulting in sustainable architecture and design
- art design in the television and film industries
- theater stage design
- furniture, graphic and multimedia design
- numerous other fields

Bachelor of Arts

carleton.ca/fass | carleton.ca/fpa | Co-op available in selected majors

Carleton's Bachelor of Arts (BA) programs are designed with the understanding that how you learn is every bit as important as what you learn. We have a wide range of undergraduate programs that aim to inspire, challenge and empower you to participate in and help shape our ever-changing world.

Program of study

At Carleton, you can structure your BA according to what you want to achieve. You can choose a minor subject to complement your major subject and you can, in certain cases, pursue a concentration or a specialization—a set of courses in your major directed toward an area of expertise. If you are interested in two fields of study, you may be able to pursue them both in a combined program.

First-year Seminars

Our First-year Seminars (FYSMs) give you the opportunity to strengthen your critical-thinking skills through discussion and debate with both your professor and your peers. FYSMs consist of small classes of around 30 students, and you can choose from a large selection of seminars.
carleton.ca/first-year-seminars

Finding your way

Not sure what you want to study? You're not alone—we're here to help you find your way. You can take time to explore your academic options by not selecting your major for your first year. You can choose from a wide variety of courses and get academic advice on possible majors and careers. Once you've discovered first-hand what Carleton has to offer, you'll be in a better position to decide on your future path.

African Studies

Africa is the most culturally and geographically diverse continent on Earth. The African Studies program offers you an opportunity to study the histories, cultures, languages, geographies, politics and economics of this fascinating continent. You will also learn about the aid, trade and investment, and migration flows that link Africa to the rest of the world in the era of globalization.

Students in the Combined Honours program can benefit from a work placement opportunity, a mentorship program and the chance to study in Africa through our African Studies Abroad course or by doing their third year at one of the African universities with which Carleton has exchange agreements. Our students also benefit from our wide partnerships in Ottawa: government agencies and departments, African diplomatic missions, NGOs and other international organizations.

Career paths: business; education; foreign service; humanitarian aid work; international business; international development; journalism; policy analysis; research

Anthropology

In an increasingly pluralistic world, where people from different places and backgrounds frequently interact, it is ever more important to understand how human beings make sense of themselves and others across time and space. This is anthropology: the study of human beings in all their cultural, geographic and historic diversity. The anthropology program at Carleton is focused on sociocultural anthropology, which means we study contemporary cultural phenomena—such as globalization, climate change and new media technologies—primarily through close attention to the everyday lived experience of real people. As a student in the program, you will learn to understand and apply the insights of what is known as the ethnographic method, developing highly transferable skills in research, analysis, interpretation, writing, oral presentation and group work along the way. Taking advantage of Carleton's position in the nation's capital, which offers access to the collections of both the Canadian Museum of History and Library and Archives Canada, as well as a host of non-governmental and governmental agencies, we offer a co-op program, a field-placement course and provide students with a chance to do substantial independent research through the Honours Research Paper.

Career paths: community development; consultancies; counselling and mediation; education; environment; immigration services; international development; journalism; marketing and advertising; museology; personnel services; policy development; public health; applied research; urban planning

Applied Linguistics and Discourse Studies

Language is an essential part of what it is to be human and this program gives you the opportunity to examine how language works in real life. In the Applied Linguistics and Discourse Studies program you will develop and apply theories to solve everyday problems involving language. Course materials address such questions as: how languages are taught and learned, how language competencies are evaluated, how writing is used to perform a variety of functions, how language is used in specific social contexts, how language can influence society and vice versa, how government policies influence language practices and what makes a bilingual education program effective.

Minor programs in American Sign Language, Mandarin Chinese, German, Italian, Japanese, Russian, Spanish and Linguistics are also available.

Career paths: curriculum design; language testing; language-related high-tech industry; policy analysis; speech therapy; teaching; translation; writing

Art History

Why Art History? Examining how art was understood, made, used and experienced opens windows into every aspect of the societies we study. As an Art History student, you will gain historical and methodological frameworks for understanding imagery, allowing you to interpret them in different ways. An Art History BA provides you with invaluable skills applicable to a wide range of professions. These skills include oral and written communication; the identification, critical assessment and analysis of research materials; creative problem solving; critical thinking; visual and verbal communication technologies and techniques; and the ability to work independently and in groups.

Art History is also committed to experiential learning. Students in third or fourth year can take advantage of our practicum program, where they get real-world experience working in art galleries and other cultural institutions, such as the National Gallery of Canada, Library and Archives Canada, the Ottawa Art Gallery, the Canadian War Museum and the Canada Council Art Bank. Regular field trips and study abroad opportunities are also part of this commitment.

Career paths: archival work; art collection management; art consultation; art restoration and conservation; arts administration and programming; arts education; arts journalism; digital humanities; multimedia work; museum or gallery work

Students in Carleton's Art History program will develop the skills to research, analyze and think critically through imagery. The Carleton University Art Gallery (CUAG) offers a diverse program of art exhibitions and events right on campus.

Biology

Biology in the twenty-first century is among the most diverse and exciting of the sciences. Many of the challenges we face as a society, from environmental decline to the demand for new health therapies, involve biological solutions. As a Carleton Biology student in the BA, you will gain broad experience through core science courses and courses in the arts and social sciences that suit your individual interests and needs. The Department of Biology offers BA and Bachelor of Science degrees, and an interdisciplinary Bachelor of Humanities degree offered jointly with the College of the Humanities.

Career paths: bioethics; education; environmental consulting; field work in agriculture or wildlife management; intellectual property; science policy and regulation; medicine; natural resource management; research; science writing

Canadian Studies

The Canadian Studies program at Carleton tackles problems related to Canada that do not fit easily into disciplinary boundaries, including the relationship between settlers and the land they occupy, the trauma of colonialism and the process of reconciliation, the complexities of understanding and preserving heritage, tensions between urban and rural parts of the country, nation-branding, and the representation and performance of identity. These problems demand creative and innovative research methods and ways of thinking. The goal of our program is to help students develop the skills necessary to meet them.

In your fourth year, you will have the opportunity to take a practicum course that provides you with hands-on work experience. The fourth-year capstone seminar provides an opportunity to engage in academic research and publication. Both courses, in addition to other Canadian Studies and Indigenous Studies courses offered, take advantage of our location in Canada's capital.

Career paths: journalism; law; museum and archival work; public service; teaching

Childhood and Youth Studies

Professionals working with children and youth face many challenges involving complex relationships with families, communities and governments. The newly redesigned Childhood and Youth Studies program at Carleton will provide a critical interdisciplinary educational experience to prepare you for a wide range of careers in this important and expanding sector.

Your coursework will introduce you to the complex contexts of childhood and adolescence throughout history, equip you with the analytic skills necessary to work effectively with children and youth, and inspire your commitment to the welfare of children and youth in Canada and across the world. The flexibility to pursue a minor in another discipline will also enable you to customize your program of study to your specific career interests.

Career paths: child advocacy; education services; health and social services; policy development; research in public and private agencies; senior administration

Criminology and Criminal Justice

Our students acquire a comprehensive, interdisciplinary understanding of crime, criminality and processes of criminalization and punishment. You will learn about penal justice, including practices of surveillance, prevention, policing, courts, sentencing and corrections. You will personalize your program by choosing one of three concentrations: Law, Psychology or Sociology. In addition, possible field placements in organizations such as the Crown Attorney's Office, criminal law offices or the Royal Ottawa Hospital will give you hands-on experience in real-life situations, including front-line work with criminalized individuals, victims, police

and lawyers. Other placements can match you with researchers and policy analysts involved in criminal justice and crime prevention. Carleton's location in Ottawa gives you research and employment opportunities at the Department of Justice, the RCMP, the Correctional Service of Canada, Public Safety and the Canadian Resource Centre for Victims of Crime.

Career paths: corrections, probation and parole; crime prevention analysis; government and policy; graduate work or professional studies; legal and social policy research; security and law enforcement; victim and support services

English

As human beings, we understand ourselves and our world through the stories we tell. In the English department, we approach stories as tools for self-reflection and self-understanding, creative thinking and problem-solving. Our students learn to think deeply and write clearly in small, supportive and inclusive classes taught by award-winning professors. Our students are prepared for living in a complex world by studying the texts that anchor our diverse histories, from Beowulf to Bollywood, Jane Austen novels to comic books and Shakespearean plays to Indigenous drama.

Our highly successful co-op program enables students to combine academic study with valuable, paid work experience. Students have the opportunity to study abroad and register for a range of concentrations and minors in Creative Writing, Drama Studies and Professional Writing. Our department offers a wide range of courses taught by internationally recognized scholars. Studying in the nation's capital, our co-op students frequently find employment with the federal government and in Ottawa's high-tech sector. Our students enjoy access to prominent national institutions, including Library and Archives Canada, the National Gallery of Canada and the National Arts Centre. Ottawa's vibrant literary community hosts many events, from prestigious national galas to coffeehouse writer circles. Our students can also attend many of the Ottawa International Writers Festival events for free.

Career paths: civil service; communications; creative writing; editing; human resources; law; library sciences; market research; non-profit sector; public relations; publishing; social media; teaching; technical and professional writing

Environmental Studies

Explore environmental change, governance and policy in Canada and globally. Environmental Studies offers an interdisciplinary program of study focusing on the application of knowledge and hands-on learning to pressing environmental issues. Environmental Studies prepares students to be informed thinkers and problem-solvers dealing with the environmental challenges critical to our future. Through a combination of required courses and electives, students gain a solid foundation in environmental studies, while also being able to pursue specific areas of interest, such as resource conservation, environmental justice, urban sustainability or environmental policy. Enviromental Studies also allows students to select from a diverse range of courses in anthropology, biology, earth sciences, economics, geography, geomatics, history, Indigenous studies, law and legal studies, philosophy, political science and sociology. Field courses, workplace practicums and experiential learning provide opportunities for students to gain valuable research skills and practical experience during the completion of the program.

Career paths: climate change organizer; conservation policy analysis; ecotourism; environmental assessment; environmental consulting; environmental planner; natural resources analysis

European and Russian Studies

The Institute of European, Russian and Eurasian Studies (EURUS) offers a comprehensive, interdisciplinary approach to the study of Europe, Russia and Eurasia. You will be able to build a program according to your specific interests, combining subjects such as history, politics, economics, language and culture. You will examine issues such as international security, nationalism and ethnic conflict, crime and corruption, the effects of globalization, migration and multiculturalism, environmental and social policy, democratization and civil society, collective memory and national identity, market reform, and European integration. In your third or fourth year, you may choose to take part in an academic exchange in a European country, in Russia and/or to pursue co-op employment. In addition to the core academic program, the Institute hosts a number of special lectures by high-profile experts, foreign visitors and embassy personnel throughout the year. An internship program is available to qualified fourth-year students.

Career paths: consulting; foreign and government service; law; media and business; non-governmental and international organizations; research

Film Studies

Investigate the cultural and artistic power of film and media. Contemporary life is profoundly shaped by audiovisual media, which makes training in analyzing film and other media directly relevant to a wide range of careers. This globally-focused and interdisciplinary program teaches critical, theoretical and historical approaches to cinema and emerging media. Students learn to think analytically and express themselves clearly, while developing specialized knowledge about history, aesthetics and film as a social and cultural practice.

Take classes in film theory, the history of world cinema, genres like horror and sci-fi, the cinemas of Asia, Africa and Scandinavia, video games, gender and sexuality in media, film festivals, documentary, sound studies, and queer and transgender cinema. We also offer classes in audiovisual practice and screenwriting. Our program is student-friendly, with small class sizes and a commitment to mentorship. Students in their fourth year can get real-world experience at a local production company, film festival, museum or archive, such as the Canadian Film

"In the Canadian Studies program, I learned and frequently practiced academic skills such as reading, writing, and how to prepare and deliver an oral presentation. I appreciated that the courses were smaller as it allowed me to participate more frequently and get one-on-one help whenever needed. I made friends with my peers and professors right off the bat and remain close with them to this day."

Hanna Stewart, student in Canadian Studies

Institute, SAW Video, Ottawa International Animation Festival, Inside Out Ottawa LGBT Film Festival and Digi60 Filmmakers' Festival.

Career paths: archiving; festival programming; film criticism; filmmaking; production; screenwriting; video game design

French

Carleton's Department of French is a great place to learn French and explore the linguistics, literatures and cultures of the francophone world. It is easy to integrate French into your studies, whether you wish to major in French, expand your BA with a minor in French or enrol in a single course. Our program spans beginner to advanced levels, helping students develop greater competency in listening, speaking, reading, writing and language interaction. You may engage academically with topics ranging from the status and features of French dialects worldwide, to emerging voices in Quebec literature, to writers from Africa and the Caribbean. Exchange opportunities and co-op work placements are available to students majoring in French.

Career paths: business; foreign and government service; public relations; publishing; teaching; tourism; translation and interpretation

Geography

Geography is about a lot more than just maps. Geographers seek to understand the complexity of the human-environment interactions that shape everyday lives, places, communities and global issues. Learn about and apply geography's unique focus on different forms of spatial analysis to explore climate change, environmental degradation, globalization, urban inequality, spatial justice, colonialism or territorial conflicts. The BA in Geography offers a solid foundation in geographic knowledge and research skills, while also allowing for the in-depth examination of specific regions (such as Canada's north or the global south) and topics (such as the geography of migration or local food systems). Field courses, work placements, experiential learning and hands-on training in tools like geographic information systems (GIS) provide opportunities for students to gain practical skills and experience while completing the program. Specialized concentrations in Physical Geography and Urban Geography are available. A Bachelor of Science in Physical Geography is also available.

Career paths: city and regional planning; environmental activism or education; conservation analysis; natural resources management; policy analysis

Geomatics

Geomatics deals with the acquisition, management, analysis and display of geographic information for societal and environmental problem solving. In our Geomatics BA program, you will obtain intensive training in geographic information systems (GIS), remote sensing (imaging from satellites and aircraft) and cartography, including desktop, web-based and mobile applications. You will apply Geomatics tools and techniques to the challenge of understanding social and environmental systems, addressing complex problems and planning human interventions. Some examples of Geomatics application areas include urban planning and transportation analysis (infrastructure management, socio-economic mapping, business analysis and sustainability planning), ecosystem and environmental resource management (e.g. forestry, agriculture, water resources) and public health and security (e.g. hazard mapping, disease spread, crime analysis). Tools of the trade include specialized computer software (e.g. Google Earth, ESRI ArcGIS software, open source GIS and database management systems) and hardware (GIS workstations, GPS technology, camera systems, drones, smartphones and other mobile platforms). Our program combines hands-on learning using the latest in laboratory facilities

Students interested in learning about First Nations, Inuit, and Métis peoples will find many opportunities at Carleton. A significant number of our BA programs, from Art History to Political Science, offer courses or course content addressing Indigenous issues. Carleton also offers a Combined Honours program in Indigenous Studies. Ojigkwanong, Carleton's Indigenous centre (pictured above with Professor Kahente Horn-Miller), is open to the campus community to learn about and practice First Nations, Inuit and Métis cultures, traditions and worldview. Ojigkwanong, meaning "Morning Star" in Algonquin, is a hub for student activities throughout the year.

with opportunities to gain field experience and do work placements. A Bachelor of Science in Geomatics is also available.

Career paths: environmental impact assessment; GIS analysis and consulting; map design and publishing; remote sensing and image analysis; resource management; urban planning

Greek and Roman Studies

Greek and Roman Studies (Classics) provides an excellent opportunity to learn about the ancient roots of civilization and to observe the impact that the ancient world had on later eras. The program examines the literature, language, history, philosophy, mythology, religion, social and economic life, technology, art, architecture and archaeology of the ancient world, framed by the impact on the Mediterranean basin of the city-states of Greece and the Roman Republic and Empire. In addition to learning about the history of civilizations that have made an indelible impact on the modern world, you will have the opportunity to learn the ancient Greek and Latin languages, to study ancient literature in the original languages or in translation, and to benefit from the expertise of Carleton scholars who have a rich variety of interests and areas of specialty. The program is intrinsically interdisciplinary: the study of Classics provides a well-rounded education, producing graduates who can reason, argue and communicate—essential skills for any field. A minor in Archaeology is also available.

Career paths: archaeology; archival research; business; law; museology; public service; teaching and academia

History

Studying history allows us to understand the complex forces that have shaped our world. Whether learning about war, revolution, the rise and fall of empires, the birth of modern Canada or the roles of young people in past societies, the study of history enables us to decipher the world around us and understand our place in it. At Carleton, we are committed to studying the past in innovative ways. In your courses, you might record a podcast, create a documentary film, digitize a medieval manuscript, interview a veteran or intern at a museum. You will exchange and debate ideas, find and assess evidence, and sharpen your writing, research and communication skills. Students can also engage with history in the real world through co-op and practicum placements.

Career paths: archival work; education; film; foreign service; government service; law; library services; museum work; non-governmental organizations; public relations; publishing

History and Theory of Architecture

This program explores how our built environment reflects human needs and ideas throughout history. Students learn to 'read' buildings as dynamic documents that interact with all aspects of human life. As well as offering a rich variety of courses, the program organizes regular field trips, invites guest speakers from outside the university and creates study abroad opportunities in locations such as Venice, Rome and England. Our unique practicum program gives students academic credit for working in organizations like Parks Canada and the Society for the Study of Architecture in Canada, or firms like GRC Architects.

It all adds up to an exciting education that opens many doors. History and Theory of Architecture is an excellent first step toward careers in heritage conservation, architectural criticism or architectural practice. It fosters intellectual skills that are invaluable in any profession in which critical thinking and communication skills are important. Our unique program also enables you to meet and learn with people who share your passion for architecture.

Career paths: academic research; architecture; governmental heritage management; heritage consulting/preservation; journalism and criticism; teaching

"I thoroughly enjoyed my time in Carleton's Geography program. From field courses to my undergraduate thesis, the program helped me develop both qualitative and quantitative research skills which I will take with me into grad school. Aside from the valuable skills the program taught me, I loved that I was able to choose a concentration in Cultural Geography. I also had the opportunity to have a co-op placement with a local environmental non-governmental organization, TreeFest Ottawa. At the end of the term, I presented my findings to one of Ottawa's city councillors!"

Shania Mahendran, student in Geography

Human Rights and Social Justice

Carleton's Human Rights and Social Justice program provides students with a critical examination of historical and contemporary human rights issues from an interdisciplinary perspective. The program is structured around five key thematic areas: 1) a critical analysis of the concepts and principles underlying human rights traditions; 2) a study of the laws and institutions that support and implement human rights frameworks; 3) an analysis of political repression from a human rights perspective; 4) an examination of social marginalization and the role of human rights in the protection of marginalized groups; and 5) an exploration of the relationship between human rights and social justice. Our location in Ottawa will give you access to local, national and international organizations that deal with the promotion of human rights and the elimination of human rights abuses. The city and the university also play host to national and international visitors who offer insights into human rights activism.

Career paths: advocacy work; government service; international relations; law; non-governmental organizations

Indigenous Studies

We live in an era of decolonization and reconciliation, in which Indigenous and non-Indigenous peoples must grapple with the haunting legacies of racism and cultural violence, and find ways to move forward. The interdisciplinary Indigenous Studies program seeks to aid this effort by providing both Indigenous and non-Indigenous students with an in-depth understanding of the historical and contemporary experiences of Indigenous peoples in North America and the world.

Following the *Mamiwininmowin* (Algonquin language) concept of *aditawazi nisoditadiwin*, or walking in two worlds, this program blends traditional academic instruction with Indigenous approaches to teaching. Coursework in the program covers four main thematic areas: Indigenous peoplehood studies; Indigenous ways of knowing and epistemologies; the history of Indigenous-Settler relations and colonization; and Indigenous recovery, vitalization, and reclamation and decolonization. In their fourth year, students will have the option of working with elders or a community organization on a capstone project.

Career paths: journalism; law; museum and archival work; public service; teaching

Law

The Department of Law and Legal Studies at Carleton is home to the oldest and largest BA program in law in Canada. In the program, you will acquire a strong understanding of the dynamics and operation of law in the context of social, economic, cultural and political structures. You will study the rules, agents, institutions and power relationships that underlie the law, while developing skills in legal research, interdisciplinary methodologies and theoretical analysis. You will be taught by award-winning professors and extensively published researchers. Carleton's proximity to national public institutions and NGOs, such as the Supreme Court of Canada, Parliament, UNHCR and the Consumer's Association of Canada, provide unique work and volunteer opportunities for our students. Honours students have the choice of a concentration in Business Law; Law, Policy and Government; or Transnational Law and Human Rights. Co-op options are available for qualified students in Business Law and in Law, Policy and Government. Students can also enrol in a service-learning placement course and receive course credit while obtaining real world experience working with a company, organization or community group on legally-related issues. Qualified students have the option to study abroad in exchange programs around the world.

Career paths: advocacy; banking and investment; business management; criminal justice; education; law and legal practice; legal administration; legal research; policing and law enforcement; policy analysis; public relations; public service; social policy

Linguistics

Linguistics is the scientific study of one of the most fundamental aspects of being human: using language to communicate. Linguists explore a range of fascinating ideas including what it means to know a language; how we process and produce language; language structure; how children acquire language; variation and diversity in languages across the globe; language disorders and delays; and how languages change over time.

At Carleton, students learn to study linguistics from a dedicated faculty with a diverse set of research interests, including theoretical and experimental approaches and methods. Students can choose from two concentrations to tailor their degree to their interests: Linguistic Theory or Psycholinguistics and Communication Disorders. Qualified students in the Psycholinguistics and Communication Disorders concentration have the opportunity to take a practicum course that provides clinical experience in speech-language pathology.

A Bachelor of Science in Linguistics is also available.

Career paths: artificial intelligence; branding and advertising; forensic linguistics; language documentation; language processing; language revitalization; speech-language pathology; translation and interpretation

Music

Our Bachelor of Arts (Honours or Combined Honours) program in Music focuses on music as a historical and social phenomenon. Carleton BA Music students also have the option to study composition, music theory, community music, computer music, Indigenous studies, gender studies, improvisation and disability studies. In our program, you will be able to study a wide

variety of musical styles and traditions, including Western classical music, Canadian music, musics of the world, jazz and popular music.

BA Music students form a close-knit community and receive personalized attention from highly qualified faculty who are internationally distinguished and recognized for their achievements in teaching and research. There is no audition or performance requirement for this degree. For students interested in pursuing performance, a Bachelor of Music is also available.

The Combined BA (Honours) in Music allows a student to combine music with a major or minor in another academic subject.

Career paths: arts management and administration; civil service; composition; entertainment industry; law; library and archival work; music criticism; musicology; performance; radio and television work; teaching music in private and public environments

Philosophy

The study of philosophy prepares you to engage meaningfully in whatever profession you choose, because it develops your ability to assess ideas, think clearly and creatively, and appreciate multiple perspectives on matters of deepest importance. By studying philosophy in one of our programs, you will have the opportunity to develop these abilities in a wide range of exciting courses from faculty members who are as passionate about their teaching as they are about their internationally recognized research. You will also be following in the footsteps of a number of notable public figures who have studied philosophy at Carleton. Graduates often pursue academic careers after completing advanced study, or pursue rewarding careers in law and government, policy analysis, ethics in health care and other fields, and social advocacy with non-governmental organizations.

Career paths: advocacy; cognitive science; ethics (medical, business, government and leadership in administration); law; social policy analysis; teaching

Political Science

Where better to study politics than in Ottawa, the nation's capital? Our program offers many opportunities to learn from and work with experts and experienced practitioners in the real world of Canadian and international politics, as well as a diverse faculty of internationally renowned scholars. You will explore new ideas and probe complex issues, such as international conflict and cooperation; citizenship, migration, and identity; and the contemporary challenges of democratic governance. You can choose to focus on the following areas of study: Canadian Politics; Comparative Politics and Area Studies (Global North); Comparative Politics and Area Studies (Global South); Gender and Politics; International Relations; North American Politics; Political Theory; and Public Affairs and Policy Analysis.

In upper years, international or local internships and exchanges are exciting possibilities, as are co-op placements.

Career paths: foreign service; government; lobbying and consulting; non-profit sector; politics; polling and research

Psychology

Psychologists study the mechanisms that underlie our thoughts, emotions and behaviours. They examine a diverse range of topics, such as how we think and learn, how we interact with others, and how we can promote healthy development and wellness. This is accomplished by conducting research so that the knowledge gained can help us to better understand the human mind, enhance well-being and performance, and generate additional research questions.

All of our programs provide opportunities to explore psychology's major areas within the context of an active and diverse research environment. For students wishing to focus on one of these major areas, we offer concentrations in Cognitive Psychology, Developmental Psychology, Forensic Psychology, Health Psychology, Organizational Psychology and Social/Personality Psychology. As well, we offer a stream in Mental Health and Well-Being. We also offer a minor in Human Resources Management.

The insights you gain from studying psychology will serve you throughout your life, in virtually any career. Psychology is also offered as a Bachelor of Science.

"As a Law and Legal Studies student, not only were my courses taught by actual lawyers and distinguished academics, but I was also able to apply what I learned in classes during an extended internship at a downtown law firm. The staff in the Department of Law and Legal Studies supported me in this endeavour by working with me to customize course criteria, which allowed me to receive course credit for my contributions to cases. Beyond just academics, the Law and Legal Studies program provided me with the opportunity to partake in an international exchange experience where I travelled to and studied in Melbourne, Australia. "

Derek Mastin, student in Law and Legal Studies

"Choosing to study Psychology at Carleton was the best decision I ever made and a truly invaluable experience. With its variety of concentrations, special topics seminars, peer mentorship program and hands-on learning experiences with community practicums and co-op options, the BA Psych. is a one-of-a-kind program. Not to mention the phenomenal faculty and staff, research opportunities and great selection of student support services that make for an unparalleled post-secondary journey."

Chelsea Medland, student in Psychology (BA) with a concentration in Health Psychology

Career paths: corrections; early childhood education; health and social services; human resource management; marketing and public relations; mental health services; parole counselling; probation; research

Religion

In this program, students will analyze responses to questions about identity, history and the basis of political and ethical commitments that have been posed by the world's major religions. The study of religion nurtures in students a respect for the complex identities of others, their histories and cultures. You can study the history and literature of Christianity, Islam and Judaism; examine Asian religions such as Buddhism and Hinduism; follow the rise and fall of religious leaders and movements; or explore common themes in a variety of religious traditions, such as the environment, the role of women or death and the afterlife. A degree in Religion will equip you for many career opportunities in our increasingly multicultural world, where religious beliefs play a significant role in human affairs and continue to affect local and global events. Minors in Christian Studies, Islamic Studies and Jewish Studies are also available.

Career paths: archival and museum work; business; counselling/conflict resolution; education; foreign service; intercultural communication; international development; law; library services; mediation and peace initiatives; non-governmental organizations; politics; publishing and editing; social work; correctional services

Sociology

How are new technologies changing the ways we interact with each other and live our lives? Why are so many jobs becoming short term, and how is this situation affecting families, communities and self-identities? Why do social problems like poverty, racism, sexism, homophobia and ageism persist in the modern world? What can we do to address these problems?

Sociology is the systematic study of human society. We connect the personal to bigger forces in society. Sociology explores how families, economic inequalities, sexuality, gender, race, the law and the state shape individuals, and how individuals shape these social institutions and structures. Sociology sheds light on the social processes shaping lives, problems and possibilities in contemporary society. We train you to do hands-on research on topics you care about, and we offer a co-op option.

Our one-of-a-kind stream in Social Justice gives you first-hand experience learning from community leaders and partnering with community-based organizations to do research, work on campaigns, public events and documentary films.

Career paths: business and professional work; community service work or non-profit sector; government service; policy analysis and development; research

Women's and Gender Studies

Carleton's Pauline Jewett Institute of Women's and Gender Studies offers programs that engage students in critical understandings of feminist scholarship, 2SLGBTQ+ studies and disability studies across different historical, socio-economic, cultural and political contexts. Central to our programs is the consideration of how gender intersects with race, class, ethnicity, age, ability and sexuality within a globalized world and transnational environments. Students can study gender issues in courses that cross disciplines and contribute to activist projects, and they have the unique opportunity to participate in a practicum placement with feminist groups, organizations and agencies from inside and outside the Carleton community.

The institute of Women's and Gender Studies also offers minors in Disability Studies and Sexuality Studies.

Career paths: community service; community-based agencies; counselling; education; government; law; media; social policy research

The BA advantage

Carleton's Bachelor of Arts (BA) provides students with opportunities to gain transferable skills and work experience, participate in extracurricular and global opportunities, and prepare for the countless career opportunities that await BA graduates.

Gain practical work experience

Most BA programs offer work experience through co-operative education or through a practicum, internship or placement. These opportunities allow you to apply your skills in real, on-the-job scenarios, and to graduate with practical work experience and connections to professionals.

Through the co-op program, Sociology student Angela Ingrao completed an eight-month work term at the Royal Canadian Mint. Angela's job involved pulling reports, analyzing and verifying data, updating training records and helping with administrative tasks.

Build transferable skills

Transferable skills allow you to succeed in a job market that is rapidly evolving and needs graduates who are able to adapt and apply their skills to many circumstances. The skills you gain will vary based on your area of study, but all Carleton BA graduates will gain skills in:

- communicating effectively across a variety of mediums;
- thinking critically about local, national and international concerns;
- analyzing, researching and interpreting information;
- building and articulating clear, concise arguments; and
- working independently and in teams.

Shape your future

Carleton's Career Services offers career guidance starting in first year, so you can plan for your future while you build skills and gain experiences. This combination of skills, work experience, extracurricular involvement and career planning allows BA students to take important first steps toward achieving a rewarding career. Our BA graduates are working in a variety of careers, in fields as diverse as:

- archival and museum work
- arts administration
- communications and marketing
- community development
- entertainment
- health and well-being
- human resource management
- law and policy analysis
- public service
- teaching
- writing, editing and publishing

Get involved

Extracurricular involvement helps you realize your interests and capabilities, build relationships and expand your perspective. Students can join a club or society, participate in local or international community service-learning, study abroad and more. Participating in these activities will shape how you understand yourself, and how you understand the people and world around you.

Hannah Consitt, a Criminology and Criminal Justice student, studied abroad in the United Kingdom during third year.

Professor Kasia Muldner and students in Carleton's Cognitive Science program utilize EEG technology to investigate cognitive processes.

Cognitive Science

carleton.ca/ics | Co-op available

Are you interested in how people or computers think? Cognitive scientists study thinking from a variety of different perspectives.

Program of study

Our program's researchers—students and faculty members—study the mind by combining the methods and theories of five disciplines: neuroscience, computer science, psychology, linguistics and philosophy. This interdisciplinary approach allows unique insights into human understanding, thought, perception, language and emotion. Through Carleton's program, you can develop your expertise in one of five specializations: Biological Foundations of Cognition; Cognition and Computation; Cognition and Psychology; Language and Linguistics; or Philosophical and Conceptual Issues.

You can also take advantage of a variety of on-campus research facilities, including those associated with the Visualization and Simulation Centre (VSIM), the Language, Logic, and Information Lab (LLI), the Science of Imagination Lab (SOIL), the Language and Brain Lab, the Centre for Applied Cognitive Research (CACR) and the Children's Representational Development Lab (CRDL).

Honours Thesis

As a senior student, you may have the opportunity to complete a research thesis on a topic in cognitive science. The Honours Thesis allows you to work closely with a faculty supervisor and to develop an area of independent research. You will graduate with valuable research experience, specific skills in identifying and analyzing problems, and a defined area of expertise.

Honours Project

Alternatively, if as a senior student you would like to gain hands-on experience, you can choose to undertake a research project. The Honours Project allows you to enhance skills that prepare you for a future career. You will work in groups of three to six, engaging in a comprehensive investigation of a "big" question in cognitive science, and will contribute by completing an original research project. The project experience provides the opportunity to transform cognitive science students into confident researchers ready for a competitive job market or further education.

Other research opportunities

Research interests of faculty members involved in the Cognitive Science program include a broad range of areas.

As a senior student, you may find yourself assisting in areas of research such as:

- natural language processing
- cognitive engineering
- modelling and simulation of games
- genetic algorithms

Careers

The Bachelor of Cognitive Science provides ideal preparation for careers in:

- cognitive research in universities, government research facilities or private companies;
- website usability design;
- language processing research; or
- speech pathology or occupational therapy (both with further study).

You will also be prepared to continue to master's programs in Cognitive Science or in the area of your specialization (such as Psychology, Linguistics, Philosophy, Cognitive Neuroscience or Computer Science).

Sprott provides many opportunities in and outside the classroom to gain real-world experience, develop professional skills, and network with alumni and professionals.

Commerce

sprott.carleton.ca | @sprottschool | Co-op available

AACSB ACCREDITED

Carleton's Sprott School of Business provides exceptional opportunities to explore your interests and grow your network while gaining employability skills and experience. Known for its close-knit community of students, faculty, staff and alumni, Sprott offers a rich student experience and outstanding support that empowers students to find success and have an impact.

Program of study

The Bachelor of Commerce (BCom) program delivers a complete business education with the choice of eight concentrations and options to add co-op, study abroad and/or a minor in another subject.

Core foundation

In the first two years of the BCom, you will take courses in all key areas of business and develop critical skills in business communications.

Specialized knowledge

Upper years provide an opportunity to specialize in a concentration, or continue without a concentration. It is also possible to pursue a double concentration.

Employability Passport

All BCom students must complete Sprott's Employability Passport, a four-year career development program that equips students with the job-ready skills and self-awareness to find meaningful employment and career success.

Did you know Sprott offers minors in Business, Entrepreneurship and Arts Management for students in other programs?

Developing solutions for sustainable communities

At Sprott, students take part in unique learning experiences that expose them to different business environments and real business problems.

In the course *Developing Creative Thinking*, business students collaborate with Industrial Design students to develop solutions that address community challenges in rural Tanzania, such as water and food sustainability, health and recreation. Students spend two weeks in Tanzania's Longido District to refine their solutions in consultation with community leaders. In 2020-2021, students will also be working on projects that address community challenges in Northern Canada and food insecurity in Ottawa.

Concentrations

Accounting

Prepare for careers in financial or management accounting, auditing and taxation. Within the BCom, you can complete all of the academic courses required to enter the Chartered Professional Accountant (CPA) Professional Education Program. Co-op hours in an approved placement can be counted toward the CPA practical experience requirement. Sprott also offers a Master of Accounting (MAcc) program. MAcc graduates can proceed directly to the CPA Common Final Exam.

Entrepreneurship

Learn about the entrepreneurial process by experiencing all of the stages in starting a business, from idea inception to development to implementation in the marketplace. BCom Entrepreneurship students take courses with students across all faculties, creating a collaborative and interdisciplinary classroom environment.

Finance

Examine how financial managers appropriately allocate their firms' capital to invest in value-enhancing projects and how financial markets value the decisions of the financial manager. Prepare for careers in valuing individual companies and managing investments and portfolio risk. This program has been accepted into the CFA Institute University Recognition Program.

Information Systems

Gain the most current technical skills and the necessary soft skills to succeed in high-paced business environments. Information Systems (IS) professionals help organizations create business value by applying their knowledge of business processes and communication technologies to create and support strategic opportunities. IS professionals are in high demand in organizations of all sizes and across all industry sectors.

International Business

Gain an appreciation for the global environment, a solid foundation in international finance, strategies in marketing and global expansion, the interpersonal skills to manage in diverse contexts, and first-hand international experience through practica and study abroad opportunities.

Management

Develop employer-valued skills and experience in managing and understanding people and their work relationships at individual, group and organizational levels. Prepare for careers in general management, management consulting, training and development, employee relations and strategic human resources.

Marketing

Gain the critical thinking, analytical and creative skills to effectively manage the development, pricing, promotion and distribution of products and services, both for profit and not-for-profit organizations. Learn how to build and sustain high-value customer relationships in competitive environments. Prepare for careers in marketing strategy, sales, advertising, brand management, customer relationship management, marketing research, digital marketing and e-commerce.

Supply Chain Management

Develop the essential skills and expertise to manage geographically dispersed networks of suppliers, manufacturers, logistics service providers, transportation carriers, distributors, service support operators and customers.

The Sprott experience

At Sprott, you will belong to a connected and caring community. We're home to 13 student-run organizations through which you can meet fellow students, develop leadership skills and build your professional network. Sprott students also gain resume-building skills through experiential learning opportunities, such as: working on real projects for business and community clients through Sprott's Project-Based Learning initiative; managing a real investment portfolio through the Sprott Student Investment Fund, and; participating in national and international case competitions through Sprott Competes.

Careers

BCom graduates find rewarding careers across a variety of functions and sectors. Sprott's Business Career Management Centre provides a range of career services, including access to job postings, career advising, workshops and employer events.

In a survey of 2017 Sprott BCom graduates, 93 per cent of respondents were employed within one year of graduation.

Sample career paths

- advertising
- business analysis
- Certified Professional Accountant (CPA)
- consulting
- corporate finance
- data analytics
- e-commerce
- entrepreneurship
- international business
- international development
- investment banking
- marketing
- project management
- sales
- strategic human resources
- supply chain management

Experiential learning is an important part of the undergraduate program in Communication and Media Studies. Students in professor Sarah Smith's "Visual Media and Communication" course learn inside the classroom and in community locations, such as the Carleton University Art Gallery.

Communication and Media Studies

carleton.ca/communication | Co-op available

We live in a media society, but what exactly does this mean? In a world saturated by media images, how do technologies and texts influence how we live and work? How is the ever-changing mediascape affecting our understanding of society and our ability to shape its future? These are just a few of the fundamental questions that the Bachelor of Communication and Media Studies degree will help you answer.

Program of study

The Bachelor of Communication and Media Studies program at Carleton is offered as an Honours degree and as a Combined Honours program.

As a student in our program, you will choose from courses that cover the past, present and future of media; the uses and abuses of technology; the economics, politics and regulation of communication; the media in local and global contexts; the interface between culture, communication and identities; and the analysis of texts, images and rhetoric.

Media practice workshop

In fourth year, you will select one course from a menu of hands-on media practice workshops that will prepare you for today's job market. Options include workshops in digital media practice; social media analytics; professional writing and public speaking; public engagement and consultation; and event management and community partnerships.

The capital advantage

Carleton University's prime Ottawa location places you at the centre of Canadian decision making about communication and media policies and regulations. Ottawa is a window to the world: it is bilingual and vibrant, and it is also the centre of public life in Canada. Studying in the capital city provides you with access to government policy-makers, public and private agencies, non-governmental organizations, cultural institutions and world-class research facilities.

Careers

Careers in communication and the media industries are rapidly expanding. Our graduates are thriving in rewarding and productive careers in a variety of fields, from advertising and public relations to law, market research and data analysis, policy development, education and more. They work as political advisors to members of parliament; communication strategists in government, NGOs and corporations; entrepreneurs; and media industry and cultural policy analysts. As a graduate of our program, you will have a solid foundation from which to intervene critically in discussions about the media, its impacts in and across a variety of sectors, and the role communication plays in fostering a more just and equitable society.

Carleton's initial partner for the Computer Science Industrial Applications Internship Option is Shopify, one of the world's leading eCommerce platforms. This option allows students to gain work experience that is tightly integrated with their Bachelor of Computer Science studies.

Computer Science

carleton.ca/scs | Co-op available

Carleton's Computer Science program teaches you the principles of solving computational problems, while giving you up-to-date applied skills for working in the information technology, biotech and multimedia industries.

Program of study

Computers and computer systems play a central role in business, communication, science, entertainment and medicine. As the range of computer applications continues to expand, so does the demand for computer scientists. Computer science is an ever-changing discipline that studies the theory, design and implementation of computer applications and systems. You will learn to use computing and information technology to help solve the problems that we face in business, science and society today and those that we will face tomorrow.

The Computer Science program at Carleton is organized into diverse streams so that you can develop a particular expertise. Our specialty streams allow you the opportunity to concentrate on one important area of computer science, and our multidisciplinary streams give you the chance to examine areas of increasing opportunity for computer scientists. All streams share a common core of computer science courses. No matter which stream you choose, you will gain expertise in all the fundamentals, including programming, algorithms, software engineering, databases and web applications. You may also choose to take the program without a stream, or to start without a stream and add one later.

Specialty streams

Algorithms

If you have strong mathematical abilities and wish to pursue an advanced degree or a career in cutting-edge research after your bachelor's degree, this stream is designed for you. In addition to core courses in computer science, this stream includes foundational courses on algorithms that will teach you to design, analyze, experiment with and reason about the algorithms that arise in modern applications.

Computer and Internet Security

In this stream, you will learn about the security problems faced by computing and communication networks, and how to build software that defends against attacks.

Computer Game Development

Computer game development has become a sophisticated subject, drawing on advanced knowledge in a number of areas of computer science, such as artificial intelligence and computer graphics. In this stream, you will learn about both the principles and practice of designing and developing modern computer games.

Mobile Computing

We are in the midst of a long-term shift of computing applications from desktop machines to mobile platforms, such as smartphones and tablets. In the Mobile Computing stream, you will study fundamental problems related to computing on mobile devices. At the same time, learn the practical skills needed to develop sophisticated mobile applications. Students in the stream must have their own laptop computer.

Network Computing

In this stream, you will learn about the communication protocols underlying networks of computers, how to manage network traffic, and how to detect and solve security problems in networks.

Software Engineering

In this stream, you will extend the software development skills gained in our core program with specialized software engineering knowledge in areas like quality assurance, project management and user interfaces. The stream is accredited as a Software Engineering program by the Canadian Information Processing Society.

Multidisciplinary streams

Management and Business Systems

This stream deals with business and the application of computers within large business organizations.

Industrial Applications Internship Option

The internship option gives exceptionally qualified students an opportunity to get work experience that is tightly integrated with their Bachelor of Computer Science studies. Students in the internship option are both full-time Computer Science students and paid employees of the industrial partner. Carleton's initial industrial partner is Shopify, an Ottawa-based company that has created one of the world's leading eCommerce platforms. In addition to providing students with a salary, Shopify covers the student's tuition and educational expenses. Students are taught all the fundamentals of the Computer Science degree while working with professional developers at Shopify, learning how these fundamentals apply to solve real problems for customers. Graduates of this program will be well prepared for a career in Canada's top software-development companies.

Program options

The Bachelor of Computer Science is available as an Honours degree, with the optional choice of streams, and a Major degree for those desiring a less-specialized program. We also offer a Combined Honours program with Mathematics. Students in other programs can opt to take a minor in Computer Science.

The capital advantage

Ottawa is often referred to as Silicon Valley North because of the large number of high-tech companies in the area. Private high-tech companies and the federal government are always seeking computer science graduates and co-op students.

Careers

Carleton Computer Science graduates go on to prosperous careers in:

- applications for biotechnology, artificial intelligence, computer gaming, business and mobile devices
- software and systems security analysis
- software design and development
- web services and infrastructure

Economics students may choose to focus their studies in one or two of eight concentrations, including a new concentration in Economic Data Science.

Economics

carleton.ca/economics | Co-op available

Economics may be a specialized area of knowledge, but it is relevant to almost every aspect of our lives. At its core, it is the study of reasoned choice in the context of scarce resources and competing interests. The need to make such choices pervades the day-to-day lives of all of us—as individuals and in society as a whole.

Economics provides insight into important social issues such as health care, protecting the environment, inequality, and optimal design of social programs and the tax system. Further, knowledge of economics is crucial in many business fields including labour relations, banking and financial markets, and international trade and finance.

Program of study

In Carleton's Bachelor of Economics (BEcon) you will study the operation of market-based economies, examining the causes of economic growth, inflation, unemployment and international trade. You will look at how governments manage their economies by developing and administering policies to regulate activities such as trade, taxes and competition, and you will study economic theory and research methods.

Students in the BEcon who wish to focus their studies in particular areas may complete one or two of eight concentrations:

- Computational Analysis
- Development
- Economic Data Science
- Economic Theory (recommended for students intending to pursue graduate studies in economics)
- Financial Economics
- International Political Economy
- Mathematics and Quantitative Economics
- Natural Resources, Environment and Economy

A BEcon Combined Honours program is also available for students who wish to study both Economics and another eligible discipline.

The capital advantage

Carleton's location in the nation's capital, Ottawa, gives you unique access to a wide range of resources in the public service. You will benefit from a wealth of research facilities and libraries in the city as well as the departments and agencies of the federal government.

Careers

By pursuing a degree in economics, you will develop the sound problem-solving, communication, analytical and research skills that many employers are looking for.

Carleton Economics graduates can be found working in many different federal and provincial government departments and agencies, including:

- Department of Finance Canada
- Bank of Canada
- Agriculture and Agri-Food Canada
- Canada Revenue Agency (CRA)
- Canada Mortgage and Housing Corporation (CMHC)
- Statistics Canada and Global Affairs Canada
- private-sector businesses (including high-tech), banks, financial institutions and insurance companies
- Canadian consulting firms and non-governmental organizations

Electrical Engineering student Fizza Ahmad Sheikh and her fourth-year Capstone team developed the First In Risk Evaluation (FIRE) System to help improve the safety of firefighting operations. By piloting a drone equipped with thermal imaging cameras, firefighters are able to measure heat intensity and identify structural dangers through a specialized graphic user interface.

Engineering

carleton.ca/engineering-design | Co-op available

Our renowned Bachelor of Engineering degree offers an exceptionally comprehensive range of programs. At Carleton, you will engage in practical, real-world training, work on invigorating and challenging team projects, and express your creativity and innovation in preparation for a rewarding career in a highly desired engineering field.

Program of study

Carleton's Bachelor of Engineering is renowned within Canada and beyond. Programs under this degree equip graduates with the knowledge to undertake a broad range of engineering activities, including the design of aircraft, vehicles, machinery, software, telecommunications systems, medical devices or solutions to environmental challenges. Along the way, you will be exposed to exciting advances in areas such as sensor technologies, robotics and global communications networks. The general curriculum begins with a foundation in mathematics, physical sciences and engineering principles. You will then proceed in the program to which you were admitted. Each program provides opportunities to specialize your studies according to your interests and ambitions. All programs offer an optional minor in Business, among others. Opportunities for graduates of these programs exist in many sectors including industry, education and government with careers spanning research, product development, design, management and consulting.

All of our Engineering programs are accredited by the Canadian Engineering Accreditation Board.

Co-op employment

Through Carleton, you can obtain rewarding co-op employment with well-known organizations, such as:

- Amazon
- BlackBerry QNX
- Bombardier
- Canadian Space Agency
- Ericsson
- General Dynamics Canada
- Google
- Honeywell
- IBM
- National Research Council Canada
- Nokia
- Stantec
- Tomlinson
- Public Services and Procurement Canada

Aerospace Engineering

Our Aerospace Engineering program emphasizes the development of analytical, computational, and hands-on engineering and design skills related to the aerospace field. The broad range of topics and applications included in this discipline are covered in four main streams: Aerodynamics, Propulsion and Vehicle Performance; Aerospace Structures, Systems and Vehicle Design; Aerospace Electronics and Systems (aircraft control, communication and navigation systems); and Space Systems Design (astronautics and space/satellite technology). All four streams emphasize the development of practical and problem-solving skills based on hands-on laboratory and design work.

Career paths

You can work on the design and development of:

- piloted and autonomous aircraft, including aerodynamics, structures, avionics and propulsion systems
- aircraft communication, navigation and control systems
- launch vehicles, spacecraft, satellite systems and operations
- aircraft and spacecraft manufacturing, certification, modification and repair/overhaul

Architectural Conservation and Sustainability Engineering

Sustainability has become a key consideration in both society and engineering. There is a growing need for engineers with expertise in the closely related areas of heritage conservation and sustainable building design and operation. Carleton's program in Architectural Conservation and Sustainability Engineering teaches students a modern approach for the design and retrofit of buildings that holds sustainability as the guiding objective while respecting architectural history and significance. Students learn to consider the life cycle costs and environmental impacts of building materials, energy demand, occupant comfort, and the effective reuse and conservation of existing structures. Students in the program work closely with Carleton's Architectural Studies students.

Career paths

Your skills can be applied to:

- conservation of heritage structures
- digital tools for new and historic building surveying and recording
- green building design and assessment
- life cycle assessment of green building technologies and materials

Biomedical and Electrical Engineering

The field of health care relies increasingly on technology, with biomedical and electrical engineers leading the way. Carleton's program teaches you principles of electrical engineering and science as they apply to biotechnology and medicine. You will learn about the design of diagnostic and therapeutic devices, bioinstrumentation, automated signal and image analysis, computing and display devices and biometric data readout systems. You will also receive a complete instruction in general electrical engineering. The program is designed to prepare you for the prerequisite courses required for many medical schools in North America.

Career paths

Your skills can be applied to:

- biomedical informatics and telemedicine
- biomedical instrumentation and biosensor design
- biosignal processing and imaging diagnostic technologies
- clinical and health care engineering
- general electrical, electronics and instrumentation engineering

Biomedical and Mechanical Engineering

The Biomedical and Mechanical Engineering program integrates life sciences with the traditional mechanical engineering topics of solid mechanics, dynamics, fluid mechanics, thermodynamics, heat transfer, materials, control systems and robotics to analyze and solve problems related to biomechanical engineering, biotechnology and medicine. The program provides students with a skill set that enables the development of advanced components, systems and techniques for biomechanical applications that are crucial to modern health care. The curriculum is designed with an emphasis on the development of practical and problem-solving skills based on hands-on laboratory and design work.

Career paths

You can work on the design and development of:

- advanced drug therapy techniques
- biomedical devices including artificial organs, limbs, joints, heart valves, cardiovascular devices and dental implants
- interactive robots for biomedical applications, such as surgery and physiotherapy
- nanotechnology for the manipulation of biological cells and genes

Civil Engineering

Civil engineers provide and maintain all of the infrastructure that we depend on daily. They plan, design, construct, operate, manage and maintain airports, bridges, buildings, dams, highways, railways, pipeline systems, tunnels,

Students from Mechanical Engineering, Civil Engineering, Electrical Engineering, Sustainable and Renewable Energy Engineering, Architectural Conservation and Sustainability Engineering, and Architectural Studies came together in their fourth-year Capstone project to create a tiny house with a big impact. At 220 square feet, the Northern Nomad is intended to be a net-zero energy building, meaning that in a calendar year it produces as much energy as it consumes.

The Carleton University Simulator Project (CUSP), an innovative Capstone project composed of roughly 30 students from the Department of Mechanical and Aerospace Engineering and the Department of Systems and Computer Engineering, is uniquely designed to rotate freely in any direction. When complete, the simulator will allow for the re-creation of dangerous situations, such as inversions or spins, which cannot be replicated by conventional pilot trainers.

water distribution systems and treatment facilities. Carleton's Civil Engineering program starts by giving students a thorough background in mathematics, chemistry, physics, thermodynamics, geology and numerical methods. In the final two years of the program, students focus on engineering design in the areas of structural, geotechnical, transportation and municipal engineering. Elective courses allow students to further specialize in the area of their choice. The program culminates in a practical fourth-year design project where the students apply their knowledge to a real-world design problem.

Career paths
Your skills can be applied to:
- built infrastructure evaluation and maintenance
- design of structural, geotechnical, transportation or municipal systems
- infrastructure safety, security and comfort
- on-site construction management and supervision

Communications Engineering

Carleton is proud to offer the only Communications Engineering program in Canada. Telecommunications engineers play a vital role in today's world, serving as the architects of cloud computing and software defined networking (SDN), smart phone communications, next generation internet applications and software, social networking technologies, wireless systems, and integrated voice, data and video communications. The program provides you with the flexibility to succeed in a world of rapidly changing technology, alongside the specific knowledge and skills that are highly valued by employers in the telecommunications and information industries.

Career paths
You can work on the design and development of:
- distributed computer networks and sensors
- satellite communications and navigation
- cloud computing, software defined networking (SDN) and next generation internet applications
- smartphone, smart-tablet and Internet of Things (IoT) applications
- wired and wireless data/communications networks and software

Computer Systems Engineering

Computer systems engineers combine both hardware and software to design, develop and implement integrated computer systems for applications in such areas as robotics, artificial intelligence, aerospace and avionic systems, autonomous systems, multimedia applications and cloud computing. Carleton's Computer Systems Engineering program will enable you to learn how to engineer complex systems based on computers and acquire an understanding of computers as integrated software/hardware systems.

Career paths
You can work on the design and development of:
- autonomous, embedded aerospace systems
- cloud computing and social network applications
- robotics, smart vehicles and artificial intelligence
- smart grids and wireless sensor networks, and Internet of Things (IoT) systems

Electrical Engineering

Electrical engineers design, develop, test and manage the manufacture of equipment ranging

from cell phones to giant power generators. Our unique program allows for specialization in radio-frequency and microwave circuits and applications, communication circuits, integrated circuit design and fabrication, semiconductor and nanoscale technology and devices, or electrical energy and power. Carleton is one of the few universities in Canada with its own facilities for manufacturing integrated circuits.

Career paths
You can work on the design and testing of:
- electrical power systems, including generators, motors and power grids
- high-speed integrated circuit chips
- local area networks, smartphones, fibre optics and satellite communications
- vehicular electronic controls and navigation

Engineering Physics

Engineering Physics is a challenging and elite program for those students who want to combine the strengths of physics and engineering. You will obtain an unusually broad and strong foundation in material science, applied physics, electronics and nanotechnology, and learn to apply it in the development of new technologies which include, but are not limited to, nanotechnology, semiconductor devices, optical systems, telecommunications and related computer hardware. In your senior year, you may specialize in many other areas of interest.

Career paths
You can work on the design, development, simulation and application of physical devices, photonic components and systems in:
- biomedical physics and sensors
- microelectronics and process engineering
- nanotechnology
- photonics technology and communications

Environmental Engineering

Environmental engineers ensure that we have clean water to drink, clean air to breathe, clean soil to grow our crops and clean energy to sustain our growth. The goal of environmental engineering is to offer sustainable and green solutions to many of the issues and challenges facing our society, and to provide a clean and healthy environment for us and our ecosystem. Climate change will impact our quality of life and our environment, and environmental engineers play a key role in reducing these impacts and in adapting to these changes. Environmental engineers use engineering and science principles to design innovative treatment technologies that help to minimize our environmental footprint, prevent pollution, reduce greenhouse gas emissions, improve air quality, ensure drinking water safety and achieve environmental sustainability.

Career paths
You can work on the design and development of technologies to:
- assess and improve air quality
- design and improve treatment systems for water, wastewater and solid waste
- mitigate and adapt to climate change
- provide clean energy alternatives to reduce greenhouse gas emissions

Mechanical Engineering

Virtually anything one builds that moves or converts energy has a mechanical component, making mechanical engineering among the most versatile of all disciplines. Our program emphasizes the development of analytical, computational and hands-on skills in design, dynamics, thermodynamics, heat transfer, fluid mechanics, solid mechanics, materials, control systems and robotics. Elective courses in energy conversion and power generation, manufacturing and production processes, aerodynamics and flight mechanics, vehicle engineering, biomedical engineering and computational methods complement the core courses of this program.

Career paths
You can work on the design and development of technologies in:
- ground, sea and air transportation
- power generation and energy conversion
- manufacturing and robotics
- resource extraction and processing

Software Engineering

Real-world software systems, such as massively parallel internet applications and mission-critical avionics control systems, require robust and provably correct software design. Our Software Engineering program goes beyond teaching simple programming and instead focuses on modern software engineering principles, tools, integration and analysis techniques for the design of large, complex and high-performance software systems.

Career paths
You can work on the design and development of:
- aerospace, autonomous vehicle and embedded systems
- robotics, machine learning and artificial intelligence
- scalable web applications such as social networking, e-commerce systems and Cloud computing
- smartphone and smart-tablet applications, and Internet of Things (IoT) systems

Sustainable and Renewable Energy Engineering

There is an increasing demand for clean sources of energy such as nuclear, wind, solar, geothermal, hydropower and biomass energies. Truly sustainable development, however, will require the clever integration of renewable energy technologies into existing infrastructure, along with vastly improved efficiencies in non-renewable energy use. This program provides analytical and hands-on skills for designing, building, operating and enhancing sustainable energy systems that combine energy generation, distribution and utilization in an environmentally-responsible and economically-beneficial manner. Two streams are offered: Smart Technologies for Power Generation and Distribution, and Efficient Energy Generation and Conversion.

Career paths
Your skills can be applied to:
- energy-related industries, power utilities and government agencies
- manufacturing industry sectors related to renewable energy projects
- transportation systems with hybrid propulsion technology
- engineering consulting services specializing in efficient generation, distribution and utilization of energy

Fourth-year Biomedical and Electrical Engineering students Maryam Kaka and Victoria Madge display their Integrated Concussion Assessment System (I-CAS) mobile application, which aims to migrate clinical concussion testing and recovery monitoring to the home environment.

Global and International Studies student Maheep Sandhu had the opportunity to travel throughout Uganda during his work placement at a non-profit in Kampala.

Global and International Studies

carleton.ca/bgins

An abiding strength of Carleton University is its long tradition of study and research focusing on international problems and perspectives.

Program of study

Carleton's Bachelor of Global and International Studies (BGInS) degree takes advantage of Carleton's strengths, and its location, to provide an undergraduate education in global and international issues that can give you an advantage in today's job market. The program has four interconnected components. The core course sequence provides all students with a shared multidisciplinary foundation in global and international studies. The 18 specializations cover specific international and global themes or geographical areas, giving you the opportunity to focus your studies according to your interests. A second-language requirement and an international experience requirement are included so that you can graduate not only with new knowledge and skills, but also an expanded worldview.

Core courses

All BGInS students are required to take the core course sequence, which provides you with a strong multidisciplinary foundation in global and international studies:

First-year courses

- Global History
- International Law and Politics
- Ethnography, Globalization and Culture

Second-year courses

- Ethics and Globalization
- Globalization and International Economic Issues
- Global Literatures

Third-year courses

- Global and International Theory
- Places, Boundaries, Movements and Global Environmental Change

Fourth-year courses

- Honours Seminar in Global and International Studies

Specializations

Africa and Globalization

Study a wide range of issues as they apply to Africa, including democratization, human rights, international development, youth cultures, migration and refugees, colonialism and postcolonialism, and social justice.

Europe and Russia in the World

Study the region of Europe, Russia and Eurasia in its broader global context, including its history, society, politics, culture, economics and languages. You may focus on particular countries in the region, institutions such as the European Union, or themes such as migration, civil society, EU enlargement, globalization and identity.

French and Francophone Studies

Gain an understanding of the multiple varieties of spoken French and the diversity of French literatures across continents. Study how both are patterned globally through issues and contexts ranging from colonial and postcolonial histories, transnational contacts, cultural transfers and experiences of migration.

Global Development

Gain a multidisciplinary perspective on this broad and important field by taking foundational courses in anthropology, economics, geography and political science, and learn about the way the world is unfolding in the face of increasingly urgent challenges from climate change to global epidemics.

Global Genders and Sexualities

Study the ways that bodies, genders and sexualities are shaped on local, national and international spaces. You will explore the ways that race, colonization, citizenship and ability shape and govern our intimate lives.

Global Inequalities and Social Change

Study global inequalities and social change, combining theoretical and applied approaches. Gain an understanding of multiple dimensions of inequality through topics such as poverty, racism, colonialism and gender. Acquire knowledge of various forms of resistance to oppression, including social movements and transnational solidarity.

Global Law and Social Justice

Develop an understanding and facility with law as a key mechanism by which global issues, identities and institutions are organized and contested in this contemporary period of globalization. Explore legal frameworks as they relate to topics such as human rights, migration, trade and armed conflict.

To fulfill the international experience requirement, BGInS student Monica Lung completed an internship with Canada's Permanent Mission to the United Nations in New York City.

Global Literatures

In the twenty-first century, literature offers one of the most compelling ways to enter into the many cultural worlds that converge in contemporary globalized societies. Explore how writers reimagine identity and belonging against a background of histories of colonialism, diaspora, migration and the experiences of living in multiple national and cultural communities.

Global Media and Communication

Media and communication technologies are engines of globalization that shape the cultural environments in which we live. You will study global media and communication in historical and contemporary contexts and develop the knowledge and skills necessary for working in global and international settings as communicators, researchers, analysts or advocates.

Global Migration and Transnationalism

Gain invaluable expertise for a world on the move. Study the movement of people and ideas

with national and international leaders in topics such as citizenship, the global refugee regime, multiculturalism, state security, transnational identities and violent extremism.

Global Politics
Gain an understanding of global political issues through a problem-focused and applied approach to the study of such topics as the gap between rich and poor, democracy and its economic and political benefits, human rights, war and peace, ethnic conflict and the politics of the environment.

Global Religions: Identity and Community
Engage in the academic study of religion and become literate in the history and contemporary development of the world's diverse religious traditions. Explore how religion informs identities and shapes power relations in different societies around the world. Gain insight into the ways people use religion to find meaning and forge communities in an increasingly interconnected world.

Global and Transnational History
Study the global community from 1400 to the present, with a particular focus on the non-western world, and explore global connections, movements and trends. You'll gain an understanding of the historical dialogue between forces of global integration and forms of local knowledge and experience.

Globalization, Culture and Power
Use the insights of anthropology to become conversant with the cultural impacts of globalization in terms of economic inequality, ecological vulnerabilities, colonial legacies, health practices and institutions, and new visions of human rights.

Globalization and the Environment
Understand the social and political dimensions of global ecological change, from questions of global water justice and international agreements on greenhouse gas emissions to the links between climate change and inequality. Learn about policy alternatives on global environmental challenges, such as urban sustainability, environmental disasters and displacement, and transitions to a low-carbon society.

International Economic Policy
This specialization's relatively non-technical approach will give students with diverse backgrounds the opportunity to learn about issues related to economic globalization and gain an understanding of the economic forces invoked by government intervention.

"Studying in Global and International Studies has provided me with an interdisciplinary approach to understanding the world. Focusing my studies in Africa and Globalization has provided me with an enriched and enlightened way of understanding development in its unique and diverse approach. I chose this concentration because I want to be a part of Africa's future, and the professors have readily provided me with the academic tools to face our changing world."

Tine Ndhlovu, Bachelor of Global and International Studies student

Latin American and Caribbean Studies
Develop an integrated understanding of this important geopolitical region. Study the region's history, politics, geography and cultures, and learn about interdisciplinary approaches to understanding sustainable development, democracy, human rights, social justice and cultural diversity.

Teaching English in Global Contexts
Study the place of the English language in an increasingly interconnected and globalized world, and the benefits and challenges it brings. Learn how to teach English as an international language using current methods and obtain valuable accreditation as an English teacher.

Language requirement

A basic requirement for engaging with the world is the ability to speak in more than one language. For this reason, the BGInS program expects students to pass a second-language requirement. Those incoming students who do not have skills in a second language can take courses offered by our School of Linguistics and Language Studies (SLaLS) or our Department of French. Options include Arabic, Chinese (Mandarin), French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish and ancient languages.

Learning another language will not only help you become a culturally literate global citizen, but may also enhance your future employment prospects.

International experience

It is one thing to study a part of the world, and another to immerse yourself in its culture. For this reason, the BGInS program features an international experience requirement as an integral part of the program. You can fulfill this requirement by studying abroad under one of Carleton's international exchange agreements, undertaking an international work placement, completing a Carleton University course taught abroad, participating in an experiential learning opportunity abroad, studying abroad on a letter of permission or taking our innovative *Global and International Group Project* course.

Careers

A global perspective, intercultural understanding and second-language ability are increasingly important skills for success in the workplace. A BGInS degree can provide the foundation for careers in advertising, business, communications, foreign service, journalism, marketing, policy analysis, public relations and many other fields.

A BGInS degree can also prepare you for graduate school in a range of disciplines.

Health Sciences professor Kristin Connor, whose research focuses on the developmental origins of health and disease, takes an interdisciplinary approach to health sciences education.

Health Sciences

carleton.ca/healthsciences

Carleton's Bachelor of Health Sciences (BHSc) is a unique interdisciplinary and career-focused program that provides the knowledge and skills required to understand, participate and succeed in the rapidly evolving healthcare and research landscapes. This program provides a strong foundation in the biological and biomedical mechanisms of human health and disease as well as an in-depth understanding of the social, political and environmental determinants of health.

Program of study

The BHSc program offers a strong foundation in health sciences that can prepare you for professional schools (e.g., medicine, dentistry, or veterinary medicine), a post-graduate degree in health research and for careers in health-related fields like public health, global and environmental health, and health policy.

The BHSc program offers five concentrations, which can be combined in unique and innovative ways:

Biomedical Sciences

This concentration provides a strong foundation in biological and biomedical sciences and allows you to explore the genetic, biochemical, immunological, physiological and developmental aspects of human health. In addition, a broader understanding of human health is gained by examining current issues from cultural, psychological, technological and environmental perspectives.

Disability and Chronic Illness

This concentration is unique to Carleton. It introduces you to the biomedical, social and psychological basis of chronic illnesses and explores treatment strategies used to enable productive and healthy lives. Chronic illnesses and disabilities affect the quality of life of a large number of people and include heart disease, cancer, chronic pain conditions, mental health problems and physical disabilities. You will learn about biomedical, cognitive and technological advances, as well as the ethical dilemmas affecting intervention and treatment.

Environment and Health

This concentration explores the influence of our environment on our health from a biological, chemical and epidemiological perspective. You will learn how these complex environmental factors interact to make individuals either more vulnerable or more resilient to illness and disease. You will also study issues related to the prevention and treatment of environmentally linked illnesses such as cancer, asthma and neurodegenerative disorders.

Global Health

This concentration provides you with the biological, psychological and social knowledge required to address current and developing health issues that affect national and international populations. It focuses on real-world issues of increasing relevance in our interconnected global community—such as globalization, climate change, infectious diseases and environmental pollution—in the context of the social and political factors that influence healthcare practices and policies.

Health Throughout the Lifespan

This concentration focuses on health and illness through the stages of human life. There are few health sciences programs in Canada that include lifespan studies, and Carleton's program is unique in featuring courses that explore the entire lifespan, from neonatal development to old age. You will learn about the biological processes of aging, including how events occurring in early life can have effects that appear much later, in the form of medical conditions such as diabetes, cardiovascular disease and depression. In addition, you will have the opportunity to learn how factors such as gender and social conditions can influence health.

Hands-on approach

All concentrations in the BHSc program provide a hands-on approach that includes laboratories, workshops and seminars beginning in first year. Students can take advantage of programs offered at Carleton that include summer research internships and international experience opportunities. The fourth year of the program provides a capstone experience with various options and hands-on experiences, including local, national or international research field placements, which (pending satisfaction of academic requirements) can advance your personal and professional goals.

Double concentration and minor options

One of the other unique aspects of the program is the ability to customize your studies to meet your goals. This includes the ability to take upper-year courses in other concentrations or programs, do a minor in another program and take a double concentration. For example, you might wish to combine the concentrations in Health Throughout the Lifespan and Disability and Chronic Illness to focus on issues relating to healthy aging. Alternatively, you can take a minor in Business if you are interested in healthcare management. Taking a double concentration or a minor can add value to your degree for when you enter the job market, or when you apply to professional or post-graduate programs. If you are interested in these options, please contact the undergraduate administrator for more information.

The capital advantage

Carleton's location in the nation's capital has enabled the university to forge partnerships in the area of health with both the public and private sectors. There are numerous organizations, agencies, research institutes and hospitals in the region that together provide a knowledge base unique to Ottawa.

Careers

There is great demand for highly-skilled workers in the health sector in Canada. The concentrations in the BHSc program are designed to prepare you for a diverse array of health careers, and also provide excellent preparation for medical school and other professional training.

Humanities

Study the Bible, the Bhagavad Gita, Homer, Plato, Dante, Machiavelli, Galileo, Shakespeare, Adam Smith, Bach, Mary Shelley, Nietzsche, Picasso, Rushdie and more in Carleton's "Great Books" program.

carleton.ca/bhum

In the Bachelor of Humanities, students read the world's most influential books and explore the world's most exciting ideas in art, philosophy, history, literature, classics, music, religion and science.

Program of study

In this interdisciplinary liberal arts program, students study the world's greatest ideas, books and art works produced by thinkers from the span of recorded world history—from ancient Mesopotamia to modern America. The emphasis is on ideas, explored through small discussion groups and writing assignments. The typical Humanities student loves to read and is excited about sharing ideas with students and professors.

Bachelor of Humanities students have the option to combine Humanities with another discipline to receive a Combined Honours degree or a minor in subjects such as Art History, English, History, Philosophy, Political Science or Religion.

Bachelor of Journalism and Humanities

In this degree, students cultivate their love of ideas while training for a career. Students receive professional training in newspaper, radio, television and new media journalism while gaining an in-depth understanding of world culture and history.

Bachelor of Humanities and Biology

In this Combined Honours degree, students combine the liberal arts with science training. This program combines the insights into nature given by modern science with the insights into the human spirit given by the Great Books.

Close-knit creative community

The Bachelor of Humanities program is small, with only 70 students admitted each year. The students form a dynamic and close-knit community, and are known personally by their professors, receiving a level of attention and personalized instruction that is hard to find elsewhere. Students form life-long friendships as they participate in an extensive cultural program that involves a student literary journal, music nights, dramatic readings and visits to performances at the National Arts Centre and to festivals in Montreal.

Core seminars

At the heart of the Bachelor of Humanities are four core seminars, one for each year of the program. Each seminar focuses on a different discipline—religion, philosophy, literature and politics—and on a different time period, from the ancient world to the present day. All core seminars are team-taught by two professors, include small discussion groups and are restricted to Humanities students.

Careers

The Bachelor of Humanities can take you anywhere you want to go. Humanities students graduate with outstanding research, writing and communications skills, and they normally rise very quickly in their chosen professions. Humanities students can ask to be paired with a professional mentor and can gain insight into the workplace before they graduate. Graduates may go on to rewarding careers in law, journalism, teaching, medicine, business, policy analysis, foreign service, international relations, public service, writing and research. Humanities graduates also regularly gain admittance to prestigious graduate schools, law schools and medical schools.

Industrial Design student Paul Danial displays his studio project, a custom 3D printed brace for athletes, which offers support to the lower back during strenuous physical activity.

Industrial Design

carleton.ca/id | Co-op available

Industrial designers are the professionals who determine the features, appearance, materials and ergonomics of products we use daily—from toasters and cell phones to sporting goods and tools. As stated by the World Design Organization, "Industrial Design is a strategic problem-solving process that drives innovation and builds business success, which leads to a better quality of life through innovative products, systems, services and experiences."

Program of study

Our unique and internationally respected Industrial Design program blends studies in design with applied sciences (such as math and physics) and the social sciences (such as psychology and business). You can complement your studies with a minor in areas such as Business, Psychology, Sociology or Anthropology.

We focus on the process from concept and design through to the manufacturing and everyday use of the product. There is also an emphasis on the context and social purpose of design. Beginning in first year, you learn design processes and methods by completing creative projects. Over the course of the program, you move progressively from academic studies to more intensive design studio sessions, from theory to practice, while undertaking increasingly complex design projects. Students work on drawings, models, mock-ups and simulated products, while learning about materials, marketing, environmental issues, user needs and user testing. Much of your work will take place in team situations.

In fourth year, the focus is on managing multiple design projects organized around a comprehensive major design project. An intellectual understanding of design issues is fostered through a professional practice course, an industrial internship and a design seminar.

Exceptional facilities

Industrial Design students have access to extensive facilities ranked amongst the best in North America, including modelling and prototyping laboratories (wood, plastic, metal), well-equipped design studios, wireless computing facilities, rapid prototyping equipment, a mass-production/mould simulation laboratory, laser cutting, 3D scanning and CNC (Computer Numeric Control).

Practical work experience

Internships are a requirement in the Bachelor of Industrial Design (BID) and last a minimum of 12 weeks. Opportunities exist in Canada and North America, Europe, Hong Kong and China.

Careers

Carleton's BID graduates can be found working as entrepreneurs and consultants, as well as in design teams, and at major national and international companies including Autodesk, Canadian Tire, Google, Fitbit, the Government of Canada, MEC, IBM, The Luminaires Group, Umbra, Teknion, Starfish Medical and Spinmaster Toys. You can also continue your studies by completing a Master of Design at Carleton, allowing further specialization and research focus.

The Carleton advantage

Carleton University provides the widest educational opportunities in industrial design in Canada. This includes a broad-based university foundation, international exchange opportunities, and a 12-week design internship or a co-op option. The program includes theoretical and design studio courses, which implement applied skills and theory through projects.

The capital advantage

Ottawa offers a wide range of opportunities for collaborative projects with both private and public sectors. The capital also has the strongest high-tech sector in Canada, offering opportunities for innovative designers. Students also meet prospective employers at the Annual Graduation Exhibition that showcases the work of all students and highlights the projects undertaken in fourth year.

After graduating from Industrial Design, Heather Jeffery combined a passion for sustainability with creative design skills to create re4m, a manufacturing company that uses reclaimed material to build furnishings and displays for local businesses.

Students in the Optical Systems and Sensors (OSS) program explore a range of the latest optical sensors, including this LIDAR remote sensing method used for autonomous vehicles.

Information Technology

bitdegree.ca | Co-op available

The world of information technology is always evolving. What is now commonplace was once a breakthrough. As a student in one of the Bachelor of Information Technology programs, you will acquire the theoretical knowledge and practical skills needed to address the IT issues of today and the possibilities of tomorrow.

Program of study

The School of Information Technology, in conjunction with Algonquin College, offers four distinct programs under the Bachelor of Information Technology: Information Resource Management (IRM), Interactive Multimedia and Design (IMD), Network Technology (NET), and Optical Systems and Sensors (OSS).

Information Resource Management (IRM)

The IRM program provides students with a broad understanding of information management and specific capabilities in managing digital resources as they affect research data, websites and social media. The IRM program keeps up with rapid increases in digitization and data capturing practices, while providing students with skills ranging from basic data analytics to advanced big data applications. This foundation provides a basis for building cutting-edge data analytics, machine learning and artificial intelligence-based solutions. Such skills are especially important now that the library and information technology field has moved beyond the traditional library setting to all-encompassing digital solutions in both the private and public sectors. Such skills are also critical for today's organizations to gain a competitive advantage by having their data

collected, organized, analyzed and further utilized in many different ways.

Students graduate from the IRM program with both a Bachelor of Information Technology degree from Carleton University and a Library and Information Technician Ontario College Diploma from Algonquin College.

Interactive Multimedia and Design (IMD)
The IMD program is aimed at students who are both creatively inclined, technologically adept and who are interested in all aspects of digital media. You will acquire the tools you need to take an idea or a problem and advance it through the entire process from concept to pre-production, production and post-production for practically all types of digital media. The program provides you with a multidisciplinary education through courses in computer animation, visual effects, game design and development, web design and development, user interface/experience design, visual communication and human-computer interaction. The program is then further enhanced with courses in physics, mathematics, business and social sciences. You will graduate fully equipped to work in, and shape, the digital world of the future.

Students graduate from the IMD program with both a Bachelor of Information Technology Degree from Carleton University and an Ontario College Diploma in Interactive Media Development from Algonquin College.

Network Technology (NET)
The NET program focuses on the design, management, operation and installation of future complex information networks, such as those that make up the internet and cell phone networks. The program is multidisciplinary in nature, combining courses in computer and network technology with courses in physics, mathematics, business and communications. In this program, you will not only explore theories and concepts but also learn about their practical application. You will learn to design, manage, secure, operate, install and configure advanced IT networks. State-of-the-art networking labs offer hands-on training with real-world equipment. The NET program has a partnership with the Cisco Networking Academy, whereby students are trained to successfully write the Cisco Certified Network Associate (CCNA) and Professional (CCNP) certification exams to earn industry-recognized certification, which is in high demand in the job market. Students will also have the opportunity to get certification from Nokia and Juniper Networks to give them a range of skills from different equipment manufacturers.

Students graduate from the NET program with both a Bachelor of Information Technology degree from Carleton University and an Ontario College Advanced Diploma in Computer Engineering Technology from Algonquin College.

Optical Systems and Sensors (OSS)
The OSS program is designed to provide you with a strong IT foundation and skills in designing applications for optical systems and sensors. This program combines computer programming, automation, signal processing and optics courses with foundational courses in physics, math and business. While also acquiring a strong IT background, students will learn about optical communication networks, lasers, manufacturing and advanced optical component design through our specialized hands-on laboratories. Upper-year courses include advanced subjects such as remote sensing for autonomous vehicles and drones, medical imaging and biosensors, smart sensors in agriculture and computer vision. The program has strong ties with industry and we make every effort to ensure that the program remains up to date with current trends. Students that possess both IT skills and a fundamental understanding of optical technologies are in very high demand in today's industry.

Senior students in the Interactive Multimedia and Design (IMD) program show off a preview of their action adventure game.

Students graduate from the OSS program with both a Bachelor of Information Technology degree from Carleton University and an Ontario College Advanced Diploma in Photonics and Laser Technology from Algonquin College.

Co-op and graduate employers

IRM students have been employed at Canadian Coast Guard, Department of National Defence, Employment and Social Development Canada, National Research Council Canada and Statistics Canada.

IMD students have been employed at Adobe, Sony, ImageWorks, Ubisoft, Electronic Arts, MPC, Shopify, Magmic, Image-Engine and IBM Cognos.

NET students have been employed at Bell, Ericsson, Health Canada, IBM Cognos, Nokia, Ottawa Paramedic Service, Royal Canadian Mounted Police and Statistics Canada.

OSS students have worked with Ciena, Mitsubishi, Nokia, OZ Optics, the RCMP and Viavi Solutions.

Career paths

IRM
- digital information management
- data analytics
- library services (academic and public)
- data visualization
- web design and development
- e-commerce

IMD
- game design and development
- visual effects
- web application and software development
- user interface experience/design
- human-computer interaction
- computer animation

NET
- network design and management
- finance companies
- government
- health institutes
- educational institutes
- telecom operation
- system integration
- business enterprises requiring network design, management and operation

OSS
- autonomous vehicles
- defence and security
- industrial automation
- laser industry
- medical imaging/biosensors
- optical communications
- optical component design
- remote sensing

Conor Rolland studied at the Université Jean Moulin (Lyon III) in Lyon, France.

International Business

sprott.carleton.ca | @sprottschool

The Bachelor of International Business gives students the foundation and global perspective they need to make a difference in the world. Intensive training in another language and cross-cultural skills gained through first-hand international experience prepares students for careers around the world.

AACSB ACCREDITED

Program of study

The Bachelor of International Business (BIB) delivers a truly international business education. It focuses on five key elements:

- intensive training in one of five offered languages;
- a full academic year abroad to enhance language fluency and cultural knowledge;
- core courses in business fundamentals;
- specialized courses in international business and management; and
- the option to choose from three concentrations for further specialization. (You may also complete the BIB without a concentration.)

During the first two years of the BIB, you will take courses in all key areas of business. You will also complete intensive language training.

In third year, you will study abroad at a partner institution. The language you study during years one and two will determine where you are placed. You will then return to Carleton to complete your final year.

BIB languages	Study abroad locations
French	Belgium, France
German	Austria, Germany, Switzerland
Japanese	Japan
Mandarin	China
Spanish	Argentina, Chile, Colombia, Mexico, Peru, Spain

Concentrations

Global Financial Management and Systems

This concentration focuses on the financial management of the multinational corporation and the global context in which it occurs. You will examine international financial markets, including currency derivatives, exchange rate determination and exchange rate risk management. You will also examine how firms raise and manage capital in an international setting and how they manage cross-border financial risks.

International Marketing and Trade

This concentration develops the necessary skills to help companies successfully expand to, and compete in, international markets. You will learn how to adapt business strategy to the cultural, political, legal, economical, technological, geographic and historical factors that result in buyer behaviour and marketing strategy differences around the world. You will also learn how to assess various foreign expansion alternatives that companies face when going abroad.

International Strategy and Human Resources Management

This concentration develops the skills required to design and execute international business strategies by linking a firm's global environment with its internal operations and structure. Special attention is placed on the role of human resources in framing and implementing comprehensive strategies through hiring, training and evaluating personnel. Understanding the challenges of managing a culturally diverse workforce under contrasting conditions is a key factor for success in this field.

International experience

As a Sprott student, you'll have access to many opportunities to gain international experience. These include the study abroad/international internship BIB requirement, international case competitions, Alternative Spring Break and study tours to countries such as India and China. Our location in the nation's capital connects you to a network of global companies, federal government departments, international agencies, embassies and high commissions. Follow our BIB students abroad at **sprott.carleton.ca/blogs**.

Sprott experience

At Sprott, you will belong to a connected and caring community. We're home to 13 student-run organizations through which you can meet fellow students, develop leadership skills and build your professional network. Sprott students also gain resume-building skills through experiential learning opportunities, such as: working on real projects for business and community clients through Sprott's Project-Based Learning initiative; managing a real investment portfolio through the Sprott Student Investment Fund, and; participating in national and international case competitions through Sprott Competes.

Careers

BIB graduates find careers with exporters, importers and multinational organizations in Canada and abroad, as well as with government and NGOs. Sprott's Business Career Management Centre provides a range of career services, including access to job postings, career advising, workshops and employer events.

In a survey of 2017 Sprott BIB graduates, 94 per cent of respondents were employed within one year of graduation. BIB graduates are currently working in more than 35 countries.

Sample career paths

- business development
- consulting
- corporate finance
- entrepreneurship
- export management
- foreign affairs
- international development
- international trade
- marketing
- regulatory affairs
- sales
- strategic human resources
- tourism

Study abroad for a full year

BIB students spend a full academic year gaining international experience through an international exchange and/or an international internship.

"My year abroad in Viña del Mar has been filled with so many great adventures. From gaining life-long friendships, catching the travel bug, learning about so many different cultures and even an internship in a foreign country, I have truly just lived my best life."

Alexandra Lam studied at the Universidad Adolfo Ibañez in Viña del Mar, Chile. (Shown here in Cerro Mauco, Chile.)

Carleton's journalism program offers high-quality, hands-on instruction across a wide range of media platforms, as well as a broad academic education that prepares our graduates for a multitude of career options.

Journalism

carleton.ca/journalism

Carleton's internationally renowned Bachelor of Journalism program has produced many of the top journalists in Canada and around the world, including *The Globe and Mail*'s Mark MacKinnon and Dakshana Bascaramurty, CBC's Susan Ormiston, Andrew Chang and Kim Brunhuber, CTV's Stefan Keyes and Katie Griffin, Huffington Post's Andree Lau, *Wall Street Journal*'s Greg Ip and Joel Eastwood, TSN's James Duthie, Politico's Anca Gurzu and Canadian Press's Diana Mehta.

Our reputation is built on the high-calibre professional training and academic instruction our students receive. You'll develop your skills in dynamic hands-on workshops, focusing on high-quality journalism delivered via text, audio, video and various digital media. You'll take specialized journalism courses that allow you to pursue your journalistic passions—from business to the arts, politics to health science. You'll round out your professional expertise with studies focusing on the role of journalism in society, and you'll build a strong foundation in another academic field of your choice.

Program of study

Our program will prepare you to be a digital storyteller with a skill set that opens doors to countless exciting careers. At Carleton, we know that success in the media industry depends on acquiring a solid, broad-based education. That's why you'll also take a Canadian history course and choose electives from a wide range of other subject areas. You can even opt for a Combined Honours degree in a range of disciplines, from History or Law to Sociology, Political Science, English or one of the many other options.

Four-year program

In your first year, you'll take introductory courses that help you understand journalism's role in modern Canadian society and how the media industry developed through the years. You'll also be introduced to basic journalistic principles and professional practices.

In your second year, you'll do more hands-on work in a digital course that teaches you how to use tools such as social media and photography for journalism. Small class sizes allow for intensive instruction in your year-long reporting workshop, where you learn how to gather, organize, write and report information—the fundamental elements of any form of journalism. Your other second-year journalism course will focus on the laws connected to your work in the media, from freedom of speech to rules governing such things as privacy and libel.

Third and fourth years include instruction in ethics and a range of advanced professional workshops that will help you sharpen your in-depth writing skills while mastering the techniques to produce audio, video and digital journalism across all platforms.

You'll choose from a number of journalism courses focusing on specialized subject areas, and you will participate in classes that produce student-led professional products: a community-based digital publication, a live news and current affairs radio show and a video magazine featuring short documentaries. A rotating menu of journalism electives is offered each year, from conflict reporting to longform writing.

Bachelor of Journalism with a concentration in Health Sciences

In partnership with the Faculty of Science, Carleton offers a Bachelor of Journalism with a concentration in Health Sciences. This collaboration, unique in Canada, allows you to explore journalism and science—an increasingly relevant combination in a world driven by public expectations for clarity in health science and the policies that govern it.

Bachelor of Journalism and Humanities

For those who wish to gain an understanding of world culture and history while studying journalism, Carleton offers a Bachelor of Journalism and Humanities degree. In this program, you'll spend nearly half the time studying core journalism, and the rest studying subjects such as art history, classics, literature and philosophy. For details, visit **carleton.ca/bhum**.

Distinguished faculty

Our professors and instructors are among the finest journalists in Canada. They've distinguished themselves as writers, reporters, news editors, commentators, producers, foreign correspondents and bureau chiefs in media organizations across the country, including the CBC, *The Globe and Mail*, iPolitics and the *Toronto Star*. We also have instructors with extensive experience and success in freelance journalism. The School has an extensive network of working journalists who share their professional expertise with our students as sessional instructors or guest lecturers. All bring an invaluable knowledge of the rapidly changing world of journalism into the classroom. Working closely with our full-time faculty and these professionals, you will gain hands-on experience in our state-of-the-art digital newsrooms, broadcast studios and seminar rooms.

Gain practical experience

The professional apprenticeships we offer during the academic year allow you to put your skills to practical use in news organizations, public relations and communications firms, or NGOs across Canada. Summer internships and full-time jobs are also available through the media organizations that recruit our best and brightest every year.

The capital advantage

Ottawa is a major media hub. Because it is home to those who generate news and information—members of the federal government, national NGOs, embassies, arts and culture groups, and business and high-tech communities—many national media outlets, staffed by some of the country's leading journalists, have bases in the city, including:

- CBC (television, radio and digital)
- CTV
- Global TV
- The Canadian Press
- CPAC
- *The Globe and Mail*
- *National Post*
- *Toronto Star*
- *Canadian Geographic*
- *The Hill Times*
- iPolitics
- The Tyee
- Vice
- HuffPost
- rabble.ca

These organizations often offer internships as well as career opportunities to our students.

Internships abroad

Our Journalism students can participate in the internship program involving the Centre for Media and Transitional Societies (CMTS), Students Without Borders and Uniterra. Initially established in Rwanda, where the media sector was decimated by the 1994 genocide, the program has since been expanded to encompass countries in Africa, Latin America and Asia. Each summer, our students apply to intern with media and development organizations in the field.

Careers

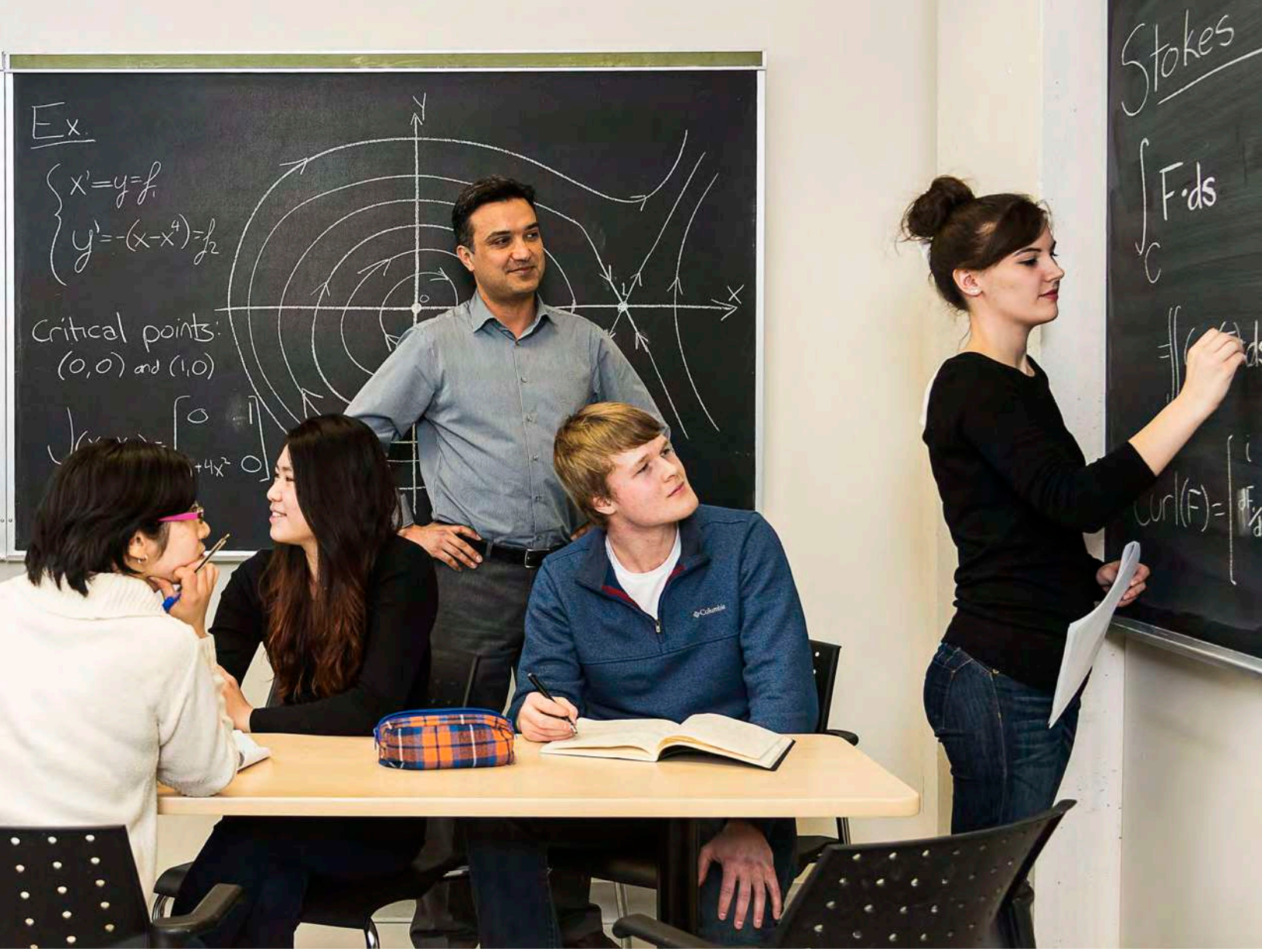
Graduates of our program are employed at all levels of the media industry in Canada and abroad, as well as in the public relations and communications sectors. Given its high level of professional training combined with academic rigour and breadth, our Bachelor of Journalism degree is also recognized as being a valuable stepping-stone to a variety of other career options. Many of our graduates have become authors, lawyers, doctors, teachers, advertising executives, diplomats, academics and public servants.

Prominent alumni

Many of the people who report the news—on television and radio, in daily newspapers and magazines—got their start at Carleton in the School's Bachelor of Journalism or Master of Journalism program. Along with those mentioned above, our alumni include:

- Nahlah Ayed, foreign correspondent and host of *Ideas*, CBC
- Rosemary Barton, chief political correspondent, CBC
- Jen Copestake, reporter/producer, BBC, London
- Geoffrey York, Africa Bureau Chief, *The Globe and Mail*
- Rita Celli, host of *Ontario Today*, CBC
- Andrew Nichols, anchor, CBC News Network
- Emma Loop, Washington correspondent, BuzzFeed

These are just a few of the hundreds of reporters, editors and media executives whose journalism training at Carleton has led to careers that literally span the globe. For the latest news on faculty, students and graduates, visit the school's website at **carleton.ca/journalism**.



Mathematics

carleton.ca/math | Co-op available

Mathematics is a driving force behind many of today's advancements in medicine, economics, business, science and technology. As a Bachelor of Mathematics (BMath) student, you can choose from a broad range of program options according to your interests and career goals. The skills gained from our programs will provide you with a competitive edge in many careers and prepare you to contribute to the next generation of innovations.

Programs of study

The BMath degree offers three Honours programs:

- Mathematics
- Statistics
- Computational and Applied Mathematics and Statistics

Alternatively, you can choose a Combined Honours program like Computer Science and Mathematics. No matter which area of study you choose, our programs ensure that you understand the structure of mathematics and master either traditional mathematical or statistical analysis. In addition, you will have opportunities to learn modern mathematical techniques and use advanced computer software.

"The Mathematics and Physics program has been the best undergraduate experience I could have asked for. It has allowed me to determine which of the two subjects I wanted to study further, and has provided me with a deeper understanding of the interplay between math and physics. The caring and approachable professors, and the tight-knit student community, ensure that everyone in the program is able to do well. During my time at Carleton, I've been given the opportunity to work on particle physics experiments in affiliated labs around the world."

Gareth Smith, student in Mathematics and Physics

Mathematics

Mathematical knowledge is critical to innovation in fields as disparate as architecture and psychology, to name only two examples. Built around a strong core of traditional pure mathematics, Carleton's program allows you to branch into many areas of modern mathematics and become skilled with a variety of applications. Students may choose to pursue a concentration in Stochastics, or combined programs with Physics or Economics. Computer Science courses may be included as options to broaden your skill set. A minor is also offered.

Statistics

Statistics is the art and science of applying mathematical ideas to obtain useful information in the face of uncertain data. As a statistician, you will plan data collection methods, monitor the processing of data and advise on the interpretation and limitations of results. You will have many career possibilities in a wide variety of organizations. Our Statistics program is designed to provide you with the basic tools you will need for statistical analysis. The Honours Statistics program also includes an introduction to the theoretical dimension of statistics required for advanced studies and offers a concentration in Actuarial Science. A minor in Stastistics is also offered.

Actuarial Science concentration

This concentration provides a targeted sequence of courses in Business and Economics so that students meet all three undergraduate Validation by Educational Experience (VEE) course requirements and have the background to write all three undergraduate level exams set out by the Society of Actuaries for professional designation.

Computational and Applied Mathematics and Statistics

In this program, you will acquire the knowledge and skills you need to pursue careers involving the design of computers and computer networks as well as the application of computers in solving critical problems in business, government and science. For example, you might find yourself developing new ways to protect information from both improper access and corruption during transmission, helping managers in business and government to allocate resources optimally, or using computer networks to study traffic flow and optimal routing. The Computational and Applied Mathematics and Statistics program is offered as an Honours program with a choice of three concentrations:

- Applied Analysis
- Applied Statistics and Probability
- Discrete Mathematics

Four years, two degrees

Carleton also offers an elite BMath/MSc fast-track program in which high-achieving students can complete a bachelor's and a master's degree in four years rather than the five years it would normally take to obtain both of these degrees.

Combined Honours programs

The Combined Honours programs incorporate courses in Mathematics and Statistics with those from other disciplines such as Economics, Computer Science and Physics. You can pursue a Bachelor of Science (Double Honours) in Mathematics and Physics, or choose one of the following Combined Honours within the Bachelor of Mathematics programs:

- Computer Science and Mathematics
- Economics and Mathematics
- Economics and Statistics

Careers

Professional mathematicians have many career options including:

- actuarial science
- business modelling
- data mining
- information security
- management and systems analysis

Computer mathematics graduates are working in such diverse fields as:

- business modelling
- information security
- networks and science
- systems analysis

Statisticians and computer statisticians use their statistical and mathematical knowledge in:

- data analysis
- financial modelling
- market analysis
- survey design

Carleton's Media Production and Design students develop skills in writing, shooting video and photos, using data and graphics to program and design engaging online stories.

Media Production and Design

carleton.ca/sjc/mediaproduction | Co-op available

The Bachelor of Media Production and Design (BMPD) will teach you to operate across all facets of narratives—designing, programming and telling non-fiction stories online. You will learn to engage, inform, entertain and ultimately contribute to a broader and deeper understanding of how we connect with each other to build stronger societies.

Program of study

A combination of intensive hands-on workshops and lecture courses gives you a strong foundation in writing and narrative abilities across digital media formats, such as: text, photography, audio, video, graphics, as well as skills in computer programming, data management and research. The classroom experience will build fundamental programming and online design skills and thinking into the development and application of narratives, with the understanding that design shapes how and what information is delivered to audiences, making "story" and "design" inseparable.

As well as acquiring editorial, design and programming skills, you will develop the theoretical knowledge and understanding of the power of a story. You will take courses in ethics, law, civic institutions and citizen interactions via policy, data and information technology theory, and the history of persuasive narration and imagery. You will learn how to combine storytelling skills traditionally taught to journalists with hands-on design and computer programming skills from information technology courses, exploring where the two intersect to engage audiences in distinctive ways.

You will receive much of your instruction in small class sections of no more than 30 students with abundant opportunities for hands-on work and constant feedback, especially in the early years of your program. As you progress from year to year, developing your expertise in those core program elements, your coursework will be augmented by instruction delivered in larger lecture-size courses in subject areas such as ethics and digital media law, as well as in emerging media industries and practical aspects such as freelancing.

Co-op employment

You can choose a co-op option, working for 12 months after the fall term of your third year, before completing the final three terms of your degree. Placements are arranged through Carleton's Co-operative Education Office with media companies, online design and production houses, not-for profit and non-governmental organizations, corporations and governments both in Ottawa and across the country.

Careers

BMPD graduates will apply creative production and design thinking to information strategies and narratives that help empower citizens, strengthen communities and help organizations of all sorts tell their stories online. Graduates will be prepared for careers such as:

- data analysts/conceptualizers
- digital communications experts
- information-based producers/designers of online content for not-for-profits, NGOs, corporations and governments, museums, research institutes
- media producers of online content for mainstream and new digital media

With your BMPD degree, you will also be prepared to pursue studies in master's programs such as Journalism or Digital Media.

Joseph Moolecherry (jazz guitar, singer-songwriter), Angelique Francis (singer-songwriter) and Suren Barry (classical piano) were able to pursue their diverse musical interests through Carleton's Bachelor of Music.

Music

carleton.ca/music

Whether your interests are in performing, studying the intersections of music and culture, or sharing the joys of music through teaching, Carleton's Bachelor of Music (BMus) will prepare you to achieve your goals.

Program of study

Carleton's BMus program provides a solid grounding in the study of a wide variety of musical instruments and traditions. While developing a strong background in performance, composition and analysis, students can choose between a range of musical styles including jazz, classical music, singer-songwriter, electronic and computer music, Celtic and world musics, and popular music, among others. Even as you specialize in one area, you benefit from an overall environment of diversity. Students also have the opportunity to develop strong critical thinking skills through the exploration of intellectual and applied perspectives such as community music practice, ethnomusicology, Canadian music studies, improvisation studies, disability studies, Indigenous studies, critical theory (including areas such as gender, ethnicity and class), and historical musicology.

Practicum placements provide opportunities for students to gain valuable experience in various arts, education and media organizations. We also offer a wide range of ensembles including choir, chamber music, guitar, roots, jazz, jazz-rock fusion, music theatre, opera, African drumming and more. In addition, Carleton is the only university in Canada to offer a performance diploma in Carillon Studies.

A degree in Music from Carleton provides a broad—yet thorough—education, giving graduates a competitive advantage in today's job market. Admission to the program is by audition, and applicants may do so on any instrument (or voice) used in classical, jazz, traditional or popular music.

Other programs

Our Bachelor of Arts program in Music focuses on music as a historical and social phenomenon. A minor in Music is also offered.

Careers

Bachelor of Music graduates can be found in careers such as:

- arts administration
- archival and library positions
- civil service
- composing and songwriting
- law
- music criticism
- music therapy
- performing in bands, orchestras and ensembles
- teaching music in public and private educational environments
- the entertainment industry: music production, film production and broadcasting

Resources

Carleton offers a wealth of performance, research and study, research and performance resources, such as:

- a world-class downtown performance facility at the Carleton Dominion-Chalmers Centre;
- a computer music production studio;
- the largest collection of Canadian musical scores outside of the Canadian Music Centre;
- an Artist-in-Residence program featuring national and international artists;
- the Jacob Siskind Music Resource Centre; and
- an extensive collection of recordings, including the Jacob Siskind Collection, the Jacques Emond jazz collection (3000+ vinyl recordings), and the Trevor Tolley Collection (7000+ jazz recordings).

The Bachelor of Public Affairs and Policy Management is housed within Kroeger College. Our graduates go on to work in a variety of public and private sector organizations, such as (from left): Matt Luloff, Ottawa City Councillor; Brittany Andrew-Amofah, Senior Policy and Research Analyst, Broadbent Institute; Garima Talwar, Director, Policy and Research, Maytree Foundation; Justine Villeneuve, Director of Communication, Women and Gender Equality Canada; and Ian McGrath, Senior Policy Analyst, Immigration, Refugees and Citizenship Canada.

Public Affairs and Policy Management

carleton.ca/bpapm | Co-op available

Public policies fundamentally affect our lives. Improving our society and our institutions requires an understanding of the policies that govern them. Carleton's Bachelor of Public Affairs and Policy Management (BPAPM) degree is designed to prepare you to be effective in assessing, debating, designing, implementing and evaluating public policies.

Program of study

The influence of public policy is pervasive in our society. It affects our climate, the quality of the air we breathe and the water we drink. It affects our prosperity and the extent of poverty, as well as our access to education and medical care. It shapes the impact and pace of technological change. It determines the duties and powers of our officials at home and overseas, and the reach and practical meaning of our rights.

As a BPAPM student, you will examine a wide variety of issues facing society today, and develop the necessary skills and knowledge to address them. The BPAPM does this through a curriculum that combines interdisciplinary study of public institutions and processes with rigorous study of public policy. A selection of courses in political science, economics, law, communications and history is combined with exclusive core courses in public policy. Together, these courses will provide you with a comprehensive understanding of what

government, civil and business organizations do, why they do it, and how they might do it better.

Specializations

After your first year in the program, you will begin to focus your studies by selecting one of four specializations, each offering different policy streams, with a total of nine policy areas to choose from.

Communication and Policy Studies
In collaboration with Carleton's School of Journalism and Communication, this specialization enables you to pursue a policy concentration in Communication Technologies and Regulation, or Strategic Public Opinion. Examine topics such as broadcasting, telecommunications, internet and information systems, or strategic communication, polling and opinion research, political campaigns and market intelligence.

Development Policy Studies
This specialization enables you to explore the policies that are designed to improve conditions in the Global South or disadvantaged communities in Canada. Choose a concentration in Rights and Human Development, or Global Economic Relations.

International Policy Studies
In collaboration with Carleton's Norman Paterson School of International Affairs graduate program, this specialization enables you to examine the international issues and policy challenges facing states and international institutions. Concentrations are available in International Relations and Conflict, and Security and Intelligence.

Public Policy and Administration
In collaboration with Carleton's School of Public Policy and Administration, this specialization provides a comprehensive understanding of pressing public issues of concern to Canadian governments and NGOs, and develops related analytical and managerial public policy skills. Choose from three concentrations: Social Policy, Economic Policy, or Environmental and Sustainable Energy policy.

Academic home and the capital advantage

The BPAPM degree is a unique undergraduate degree that draws directly from Carleton University's research and professional strengths in the study of public administration, international affairs, political studies and journalism. It takes advantage of the university's location in Ottawa, the national capital, home of the federal government, foreign embassies and many international organizations. The program is located in the Arthur Kroeger College of Public Affairs, which provides an academic home for our students who come from across Canada and abroad. The university college is ancient in conception, characteristic of universities such as Oxford and Cambridge, and following this model our students belong to a select scholarly community. They have exclusive and direct access to academic advising, a dedicated student meeting space and an electronic resource centre.

Student mentors and student society

An example of the program's collegial atmosphere is our mentorship program. First-year students are matched with a volunteer third- or fourth-year student from within the College. Available to answer questions, offer advice and share experiences, these upper-year mentors are eager to help ease your transition from high school and introduce you to the program, the College and university life in general. The Arthur Kroeger College Educational Student Society (AKCESS) organizes a variety of informal professional and social events that give students an opportunity to explore public policy outside the classroom.

Study abroad

With an average of B or better after first year, you can apply for a student exchange. This involves spending one or two terms studying public affairs at one of Carleton's partner institutions around the world.

Co-op and internships

Ottawa provides an unparalleled range of practical policy-related co-op opportunities with governmental and non-governmental organizations. Our students also have access to a wide range of internships, including international placements in locations such as Peru, China and Ghana.

Kroeger Policy Connect

In the first year of the program, students have the option to take *Kroeger Policy Connect*—an intensive learning experience in the winter term. It provides a glimpse into the world of policy practice and includes visits to a wide range of organizations that do policy work in the Ottawa area.

Careers

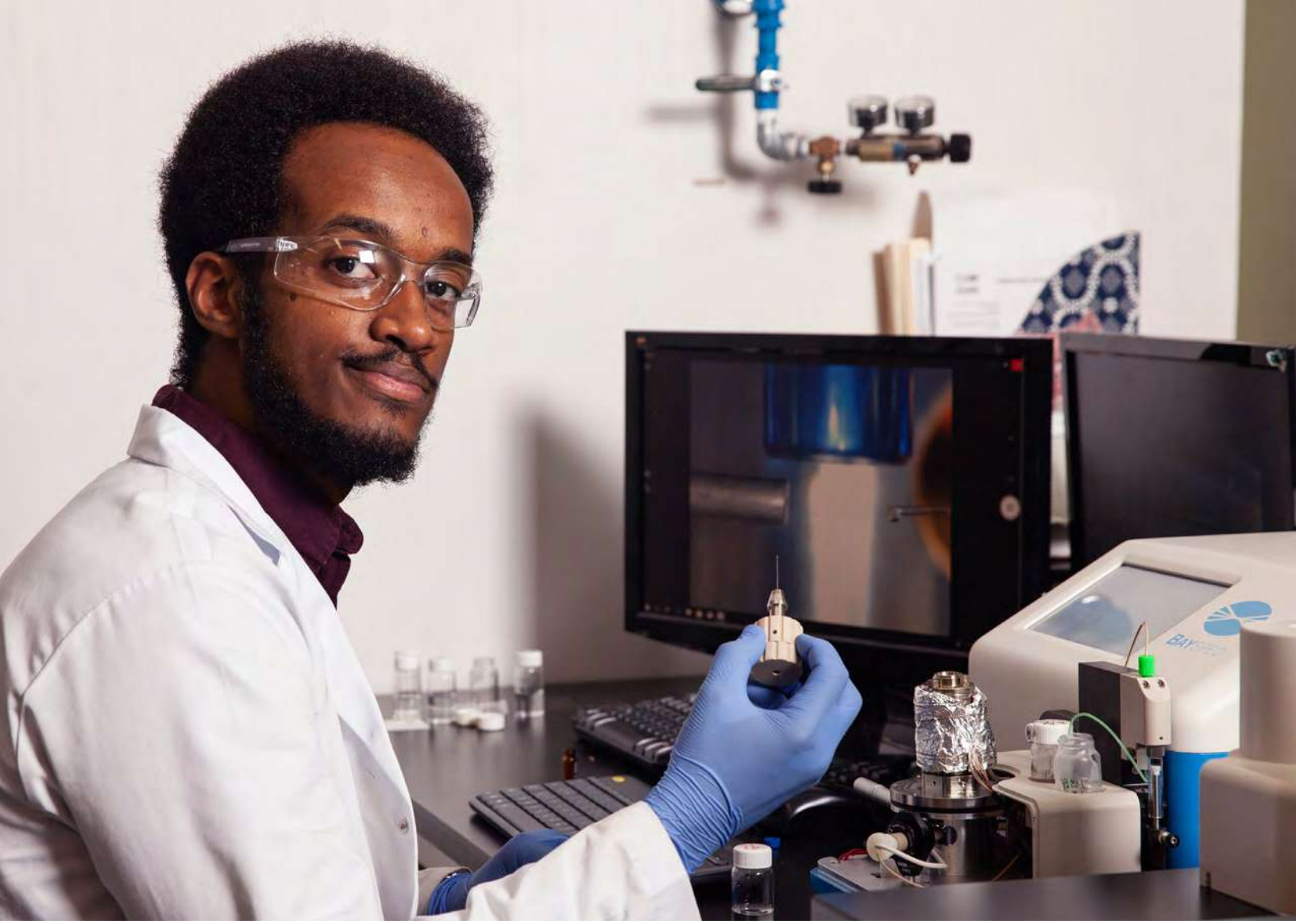
BPAPM graduates go on to work around the world for a wide range of public and private sector organizations. Our alumni also excel in graduate and professional studies in public administration, international affairs, politics and law.

Become a Page on Parliament Hill

"The House of Commons Page Program is a one-of-a-kind opportunity that provides unique insights into the political world. It brings together young people from across the country with a wide variety of backgrounds to work together to serve in the House of Commons. Working as a Page has widened my worldview, made me more passionate about politics, and has allowed me to experience politics right on the floor of the House. It has been an amazing opportunity that I enjoyed every step of the way."

Jinian Beharrell,
Bachelor of Public Affairs and Policy Management student

To learn more visit **carleton.ca/parliamentarypages**.



As Wondewossen Gebeyehu headed into his final year in the honours Chemistry program, he was able to continue his independent research course analyzing drugs at supervised injection sites while working at the Carleton Mass Spectrometry Centre.

Science

science.carleton.ca | Co-op available in selected majors

At Carleton, we pride ourselves on being leaders in scientific discovery, innovation and education. The Bachelor of Science (BSc) offers a collegial learning environment where you will be taught by professors recognized for both their scientific research and teaching excellence. They will provide you with plenty of opportunities to gain practical, hands-on experience.

Program of study

Experimenting is a key component of learning science at Carleton. In first year, your classes will typically have a lecture and a lab or tutorial component. Each lab will take three hours per week, so if you choose three of these lab courses you could have nine hours of hands-on experimentation every week.

Our labs, tutorials, field courses and seminars are conducted in small classes, resulting in plenty of personalized interactions with professors, lab supervisors and fellow students.

First-year seminars

First-year science students are encouraged to enrol in our unique seminar course, *Seminar in Science*, designed specifically to introduce you to the latest scientific issues and to help you develop the kind of communication, analytical thinking and research skills you will need for your science studies and your career.

Research opportunities

Many of our professors are actively involved

in groundbreaking research in their areas of expertise, and you could find yourself working on some of these projects. Carleton faculty have also forged strong links with Ottawa-based industries, government labs and departments, as well as teaching and research hospitals, providing Carleton students with a diverse range of research and employment opportunities.

The Carleton advantage

In addition to offering a great city and a beautiful campus in which to live and study, Carleton offers an impressive array of additional benefits.

Located right on campus, the **National Wildlife Research Centre** is the national headquarters for a network of wildlife researchers from around the world. Government scientists, faculty researchers and students benefit from close collaboration on a number of shared projects.

The **National Research Council (NRC)**, the Government of Canada's premier organization for research and development, is headquartered in Ottawa.

Summer Research Internships are available to eligible students once they have completed their first year of studies. These internships give students the opportunity to work in a research group headed by a Carleton professor.

The **Science Student Success Centre** was created to address the needs of science students. Students, faculty and staff from the centre meet one-on-one with students to get to know them and help them draft an individual study plan. They help students succeed academically by advising them on how to manage their workload, take good notes and study for exams and tests. They also act as ongoing resources and mentors to help students reach their academic goals.

Applied Physics

See Physics.

Biochemistry

The science of biochemistry seeks to understand the molecular basis of life by investigating enzyme reactions, mechanisms of gene regulation, signaling pathways and cell structure at the molecular level. Biochemists study how animals, plants and bacteria use energy to grow, compete with other organisms and reproduce. Many of the biochemists' findings are of direct relevance to humanity—they help us understand and treat disease, improve food production and find new techniques to produce valuable products such as vitamins and antibiotics. Biochemistry programs include experiential learning opportunities that provide excellent training options for entry into medicine and other health sciences professional programs.

Programs in Computational Biochemistry and in Biotechnology and Biochemistry are also offered.

Career paths: environmental toxicology consulting; medical research; medical research technology; medicine and dentistry; patent application and review; pharmaceutical sciences; regulatory toxicology; science policy analysis; teaching and instructional innovation; technical sales and marketing; veterinary medicine

Bioinformatics

Modern biology in the post-genomic age is being greatly enriched by the infusion of ideas and tools from computer science, data science, mathematics and statistics. Bioinformatics taps into the vast datasets accumulating in the life sciences, combining techniques from data and computer science to solve biological questions, such as gene identification, protein structure, drug interactions and epidemiology. At Carleton, you will take courses in several areas including bioinformatics, biology, biochemistry and computer science.

Career paths: big data analyses in the medical and agricultural sectors; biodiversity monitoring; biostatistics; database design; disease diagnostics; drug discovery

Biology

Biology in the twenty-first century is among the most diverse and exciting of the sciences. Many of the challenges we face as a society, from the development of novel health therapies and diagnostics to climate change and conservation, involve biological solutions. As a Carleton Biology student, you will gain broad experience through core science courses and options that suit your individual interests and needs. The Biology department offers BSc and BA degrees, a program in Biology and Biotechnology, and several interdisciplinary joint programs with other science departments and with the College of the Humanities. Our department believes in the value of experiential learning and students in the BSc programs in Biology have extensive opportunities to learn in lab-based environments. Students may choose to specialize in one of five concentrations: Biodiversity, Natural History and Conservation Science; Ecology, Evolution and Behaviour; Health Science; Molecular and Cellular Biology; or Physiology.

Career paths: agriculture and horticulture sciences; bioethics; biotechnology; education and academia; environmental consulting; forensics; genomics; government agencies; intellectual property; medicine and health sciences; science policy and regulation; wildlife management

Biotechnology

Biotechnology applies the principles of biochemistry and biology to the study and manipulation of living organisms for industrial, medical, agricultural and environmental applications. Some areas of biotechnology include genetic engineering, personalized medicine, drug discovery and development, applied microbiology and fermentation techniques, and biological control of insect pests. In the Ottawa area, local companies and government agencies are involved in projects such as biofuel production from agricultural waste, the development of medical diagnostic screening devices, and the development of new anti-cancer and antimicrobial therapies—in other words, biotechnological solutions to real-world problems. The extensive laboratory training provided in this program will give you the experience needed to work in a laboratory environment. Biotechnology is offered as a specialized program in conjunction with Biology or Biochemistry.

Career paths: agriculture; bioethics; biomedical product development; food industries; forensics; government lab research; industrial research and development; medical research; patent law; pharmacy; science writing and broadcasting; technical sales and marketing

Chemistry

As a student interested in chemistry, you can enrol in programs and courses in all the main areas of chemistry, including analytical, inorganic, organic, physical, theoretical and environmental chemistry. Concentrations in Nanotechnology and Chemical Toxicology are available. Extensive lab experience is offered, helping you to round out your studies with practical experience.

Career paths: dentistry; environmental policy; government and academia; law; medicine; pollution control; research and development in industry

Computational Biochemistry

The modern era of biochemistry has been transformed by the recent development of technologies that can generate vast amounts of information about entire genomes, proteomes or metabolomes. One of our biggest challenges in biochemistry is the development of tools to analyze and manage this flood of data.

The Computational Biochemistry program was developed to provide both training in computer science and a solid foundation in biochemistry. Students are exposed to the core areas of biology and chemistry, including genetics, cell biology, organic chemistry and analytical chemistry, as well as general and experimental biochemistry, bioinformatics and molecular modelling. Optional courses allow you to focus on areas such as molecular genetics, pharmaceutical drug design, functional genomics and protein structure and function.

Career paths: biomedical data management; biomedical and genetic data analysis; biomedical research and development; biotechnology research and development; combinatorial drug and enzyme design; forensic sciences and data analysis; pharmaceutical research; science communications; technical sales for biotechnology companies

After receiving a Dean's Summer Research Internship, Environmental Science student Quinn McKinney joined a partnership between Biology and Architectural Studies that focused on making building materials from nanocellulose fibers derived from hemp or recycled cardboard.

Earth Sciences

The Earth Sciences program at Carleton offers you the opportunity to study the Earth's systems, incorporating knowledge from other sciences including physics, biology and chemistry. You will learn about processes (such as evolution, earthquakes, volcanic eruptions, plate tectonics and mountain building, and the formation of hydrocarbon reservoirs and mineral deposits) influential in the Earth's geologic past that establish our present and future global development. The program offers the opportunity to participate in hands-on field courses that can take you to sites throughout Ontario, across Canada and around the world.

Students may enrol in concentrations such as Finance: Resource Valuation; Geophysics; Resource Economics; or Vertebrate Paleontology and Paleoecology; or in Combined programs with Biology, Chemistry or Physical Geography that provide a broader understanding of fields related to Earth Sciences. Graduates are eligible to apply for Professional Geoscientist registration in Canada—an important designation in the job market. Some Earth Sciences students may be interested in taking a minor in Business or Geomatics.

Career paths: natural resources exploration; research and technical positions in government, industry or university laboratories; resource and investment valuation in business; water resources, environmental assessment or remediation

Environmental Science

The Environmental Science program brings together the study of biology, chemistry, earth sciences and geography to enable its graduates to address complex, multidisciplinary, environmental and conservation problems. Through lectures, field courses and hands-on laboratory work, students become proficient in topics such as aquatic ecology, fish and wildlife conservation, groundwater protection and

"During my time in the Neuroscience program, I worked with some amazing graduate students investigating potential therapeutics for Parkinson's disease. They became some of my greatest mentors and friends. I continued in this lab through another internal research opportunity at Carleton, and learned a lot about overcoming obstacles in research. From there, I discovered my passion for cellular and molecular biology, and ultimately flourished as a scientist."

Elyn Rowe,
student in Neuroscience

remediation, sustainable resource extraction, and environmental monitoring and policy. In upper years, students specialize in chosen areas of study and conduct research and thesis projects, working in teams and individually on current problems facing environmental science. Concentrations are available in Ecology, Biodiversity and Conservation; Chemistry; and Earth Sciences.

The Environmental Science Honours program is accredited by ECO Canada (**eco.ca**), allowing our graduates to register as Environmental Professionals (EP) through this organization. In addition, the Earth Sciences concentration provides students with the course requirements to register as a Professional Geoscientist with the Association of Professional Geoscientists of Ontario (APGO). A co-op option is also available, which enables our students to gain work experience while completing their degree.

Career paths: education; environmental consulting; environmental restoration; federal, provincial and municipal government environmental departments; natural resource management; scientific research in academic, government or private sectors; sustainability and environmental policy analysis; wildlife and habitat conservation

Food Science

The field of food science integrates knowledge from the disciplines of sciences, law and economics. All aspects of the food industry are regulated to ensure safety and quality of food. Food scientists work within this regulatory framework to develop, package, preserve and distribute safe food.

Food Science at Carleton is a unique and broad-based interdisciplinary program. Built on a strong science base, the program emphasizes the analysis of food in the context of food regulations. Ultimately, these elements are used to assess risk and evaluate food safety policies in the context of Canada's dynamic food industry. The modern job market for food professionals demands people who have technical skills as well as an understanding of regulatory and socioeconomic issues relating to the food/agriculture sector. People with both sets of skills are in demand by all levels of government and by the private sector.

Career paths: analytical chemists; food product developers; food safety specialists; microbiologists; policy analysts; quality assurance managers; research and development

Geomatics

Geomatics deals with the acquisition, management, analysis and display of geographic information for societal and environmental problem-solving. In our BSc in Geomatics program, you will obtain intensive science-based training in geographic information systems (GIS), remote sensing (imaging from satellites and aircraft), Global Positioning Systems (GPS), and land surveying and cartography, including desktop, web-based and mobile applications. You will apply advanced computer software and techniques to improve understanding and management of the Earth's physical and natural systems.

Some examples of Geomatics application areas include urban planning and transportation analysis (infrastructure management, business analysis and sustainability planning), ecosystem and environmental resource management (e.g. forestry, agriculture, water resources) and public health and security (e.g. hazard mapping, disease spread, crime analysis). Tools of the trade include specialized computer software (e.g. Google Earth, ESRI ArcGIS software, open source GIS and database management systems) and hardware (GIS workstations, GPS technology, camera systems, drones, smartphones and other mobile platforms).

Our program combines hands-on learning using modern laboratory facilities with opportunities to gain field experience and participate in work placements. The BSc in Geomatics includes training and course electives in relevant physical or natural science disciplines including computer sciences. A Bachelor of Arts degree in Geomatics is also available.

Career paths: environmental consulting; environmental impact assessment; GIS analysis and consulting; land surveying; natural resource management; remote-sensing and image analysis; web mapping including design and programming

Interdisciplinary Science and Practice

The BSc in Interdisciplinary Science and Practice integrates concepts and knowledge from different science disciplines, and applies them to real-world problems through local and global perspectives. This innovative program builds on traditional science disciplines and incorporates data science, public science, policy and science communication through experiential learning, and addressing current and relevant issues.

Students complete eight interdisciplinary science courses and one minor within the Faculty of Science, which ensures that students have a demonstrated depth of knowledge in a scientific field that is recognized on their degree. Students are encouraged to complete a second minor, which they can select from within or outside the Faculty of Science. All students participate in an academic capstone experience (group research project, research essay or individual research project).

Program graduates will be well prepared to balance specialized technical knowledge with the transferable skills of critical thinking and problem-solving, teamwork and science communication.

Career paths: financial services; government agencies; health services organizations; high tech; non-profit organizations and NGOs; research organizations and industry

Linguistics

Linguistics is the scientific study of one of the most fundamental aspects of being human: using language to communicate. Linguists explore a range of fascinating areas including how language is represented and processed in the brain, the

role of language in human-computer interfaces and artificial intelligence, clinical applications of linguistics in treating language disorders and delays, how children acquire language, the psychology of language, and the biological and evolutionary aspects of language.

In Carleton's BSc in Linguistics, students tailor their degree to their interests by pairing one of two concentrations—Linguistic Theory or Psycholinguistics and Communication Disorders—with one of three focuses—Computer Science, Neuroscience or Psychology. Qualified students in the Psycholinguistics and Communication Disorders concentration have the opportunity to take a practicum course that provides clinical experience in speech-language pathology.

Linguistics can also be taken as a Bachelor of Arts.

Career paths: artificial intelligence; forensic linguistics; human-computer interfacing; language documentation; natural language processing; second language learning technology; speech-language pathology; speech recognition; translation and interpretation

Nanoscience

Nanoscience is concerned with the study of matter at a scale on the order of 10 to thousands of atoms. At Carleton, you will examine nanoscience through the disciplines of physical chemistry and electrical engineering to understand the physical, chemical and electronic characteristics of matter in this size regime. The combination of these two areas of study will equip you to fully understand nanoscience in photonic, electronic, energy and communication technologies. The focus of the program will be on materials—their use in electronic devices, their scalability and the control of their properties. Further required courses in mathematics, physics and statistics will round out the program, and advanced courses in bionanoscience and nanoelectronics are available.

A concentration in Nanotechnology is also available within the Chemistry program.

Career paths: communications technology; micro (nano) electronics; research and development in aerospace technologies; research and development in green technologies; solar cell technology

Neuroscience and Biology/ Neuroscience and Mental Health

Neuroscience is a new, exciting and rapidly expanding scientific discipline that aims to understand how physical processes in our brains underlie complex functions such as movement, sensation, memory, emotion, consciousness and thought. Faculty and students in Neuroscience are particularly interested in how diseases that affect the brain lead to mental health problems, with the focus of our research including depression, Parkinson's disease, obesity, Alzheimer's disease and concussion. Our research, like our academic programs, integrates information from many disciplines including medicine, molecular biology, psychology, immunology, genetics, chemistry and epidemiology.

The Department of Neuroscience's state-of-the-art research and teaching labs are housed in Carleton's brand-new Health Sciences Building. Neuroscience and Mental Health is Canada's first undergraduate degree program to be run by a Neuroscience department. This program offers flexibility of course selection for students, including opportunities for students to pursue a wide range of minors. Our Neuroscience and Biology (Combined Honours) program is also available for students wanting more emphasis on advanced biology and laboratory-based courses.

Career paths: human genetics; knowledge translation and mobilization; law; medicine; pre-clinical or clinical research in neuroscience or other health-related disciplines; occupational therapy; pharmacy; physiotherapy; policy analyst; science journalism; veterinary medicine

Physical Geography

Physical Geography is the science of the natural environment at all scales, from the smallest grain of sand to the entire planet, emphasizing an understanding of the complex interactions among Earth's four major spheres: the atmosphere, the hydrosphere (water in all its forms), the biosphere (all living things) and the lithosphere (the solid earth). Physical geographers analyze and manage human-environment interactions and impacts through interdisciplinary and spatially-explicit approaches that integrate elements from traditional scientific disciplines such as biology, chemistry, mathematics and physics with applied environmental disciplines such as geology, soil science, hydrology, meteorology and ecology. In the BSc in Physical Geography program, you can choose from a wide range of courses that cover topics such as climate change, water resource analysis, natural resource management, ecosystem science, quantitative methods using geographic information systems (GIS) and remote sensing, statistical analysis and environmental models. Both fieldwork and laboratory techniques are emphasized. A Bachelor of Arts in Geography with a concentration in Physical Geography is also available.

Career paths: environmental consulting; environmental technician; geoscientist; natural hazards analyst; natural resource management; water resource monitoring

Physics and Applied Physics

Physicists are passionate about studying nature at its most fundamental level to explain observed natural phenomena, as well as to predict and search for new phenomena not yet observed. Applied physicists seek to employ our physical understanding of nature to solve practical problems. At Carleton University, you can study Physics as your Honours subject (with Astrophysics, Experimental or Theory streams) or in combination with Biology, Chemistry or Mathematics. Double Honours Mathematics and Physics is a program for theoretically-inclined students. Our Applied Physics (Honours) program combines studies in modern physics, optics and electronics, mathematics and computer science. The Department of Physics also collaborates with the Department of Electronics in offering a professionally-accredited Engineering Physics (BEng) program. Physics researchers at Carleton are engaged in subatomic physics as well as in medical physics.

Career paths: advanced studies in specialized physics, such as particle physics, medical physics and astrophysics; applied research and development of new technologies in the physical sciences; data science applications to artificial intelligence, finance, social media and more; employment in industry; health care, including medical imaging and radiotherapy; instrumentation in natural resource industries; nuclear and sustainable energy industries; science journalism; scientific policy-making; teaching

Psychology

Psychologists study the mechanisms that underlie our thoughts, emotions and behaviours. They examine a diverse range of topics, such as how we think and learn, how we interact with others, and how we can promote healthy development and wellness. This is accomplished by conducting research so that the knowledge gained can help us to better understand the human mind, enhance well-being and performance, and generate additional research questions.

All of our programs provide opportunities to explore psychology's major areas within the context of an active and diverse research environment. For students wishing to focus on one of these major areas, we offer concentrations in Cognitive Psychology, Developmental Psychology, Forensic Psychology, Health Psychology, Organizational Psychology and Social/Personality Psychology. We also offer a stream in Mental Health and Well-Being.

The insights you will gain from studying psychology will serve you throughout your life, in virtually any career. Psychology is also offered as Bachelor of Arts Honours, General and Combined Honours programs.

Career paths: corrections, probation or parole counselling; early childhood education; health and social services; human resource management; marketing and public relations; mental health services; research

Professor Allison Everett talks to students about how social workers recognize and build on strengths in communities.

Social Work

carleton.ca/socialwork

Vision, energy and a commitment to social justice, social action and working with people—these are some of the qualities that are required of contemporary social workers. Through a rigorous program of study that emphasizes theory, critical analysis, research, skills development and experiential learning, Carleton's School of Social Work will prepare you to meet the challenges of this dynamic profession.

Program of study

Carleton's Bachelor of Social Work (BSW) is a degree that places strong emphasis on the interactions between people and their environments. We look for innovative ways to join with people to assist them in bringing about individual and social change. Our program is ideal for students who enjoy working with diverse populations and who have strong interests in promoting social justice. The program is designed to equip you with the knowledge and skills necessary for working sensitively and effectively with individuals, groups and communities, for critically analyzing social policies and programs, and working towards a more equitable and just world.

The BSW program is designed to give students an education in both the liberal arts and professional social work. In the first year, you will take a range of courses outside of social work along with two social work courses that introduce you to the profession of social work and the programs and policies of the Canadian state. In the next three years, you will be introduced to the theoretical frameworks of social work. This includes combining theory and practice to become a social work practitioner. You will learn principles and theories for direct intervention with individuals, families, small groups and communities. You will look at social work practice as shaped by oppressive, systemic relations. Among many other subject areas, you will learn about working with

Indigenous populations, persons with disabilities, immigrants and refugees, and you will be exposed to 2SLGBTQ+ issues. You will also explore the history and theories of the state and cover topics such as the nature of the labour market, changing family structures, ageing, the voluntary sector and research methodologies.

You will study how social services and the state are administered and managed, learn about working in community and human service organizations, and have the opportunity to refine your analytic and interpersonal skills. There are two field practica, one in the third year and another in the fourth year. They provide opportunities to put theory into practice, and are offered in such settings as: child protection and children's services; community health centres; women's health and crisis centres; probation, parole and prison services; federal government departments; and a range of international and non-governmental organizations.

A pioneer in social work

Nationally and internationally renowned for its commitment to social justice, equality and respect for all peoples in society, the School of Social Work is a pioneer of the "structural approach" to social work.

Through a structural perspective, you will examine the relationship between personal troubles, problems and difficulties, and broader social, economic and political inequities in society. You will learn to connect the circumstances of individuals to economic, political and ideological structures. Carleton-educated social workers can work effectively with individuals, families and communities and for social justice because they recognize the fundamental interconnections between social structures and peoples' lives.

As a graduate with a Bachelor of Social Work, you will be eligible to join the Ontario College of Social Workers and Social Service Workers (OCSWSSW) and receive the designation of Registered Social Worker.

A strong student society

The BSW Student Society (BSWSS) brings students together and provides an opportunity for BSW students to discuss student issues. The BSWSS arranges many events, such as workshops, seminars and social gatherings.

Community spirit

The School of Social Work is an integral part of the social welfare community in Ottawa and we are active nationally and internationally. Our professors enjoy strong, collegial relations with a diverse range of people across community organizations. For example, individual faculty members play major roles in Canada Without Poverty (which supports a national coalition for the elimination of child poverty); YouthREX (research in grassroots youth organizations); and Connecting on Disability and Abuse (a sub-committee of Crime Prevention Ottawa).

The capital advantage

The opportunity to study in the nation's capital provides students with exceptional off-campus learning opportunities. The Canadian parliament, federal departments and national think tanks are located in Ottawa.

The offices of Canada Without Poverty, the Canadian Association of Social Workers (CASW) and the Canadian Association for Social Work Education (CASWE) are also located in Ottawa.

The headquarters of many trade unions and non-governmental organizations providing services and support internationally (Oxfam Canada, CUSO International, the Canadian Council for International Co-operation) provide a broad range of learning opportunities for our students.

Careers

With a Carleton BSW, you will be able to apply your knowledge and expertise in many areas:

- child welfare and youth services
- correctional services
- counselling and advocacy
- family and health services
- housing and supportive living
- immigration and refugee settlement services
- rehabilitation services
- services for Indigenous peoples
- services for seniors
- social assistance and other related government services
- women's shelters

The School of Social Work is accredited by the Canadian Association for Social Work Education (CASWE). The CASWE accreditation review in 2012 gave the Carleton BSW the highest standing.

Social Work students conduct a mock counselling session in the School of Social Work's observation room. Through a one-way mirror, other students can watch and learn from the counselling session.

Building your degree

In many of Carleton's programs, you can add degree elements that reflect your interests, build your passions and prepare you for future opportunities.

Many programs provide the flexibility to add a **minor**, a cohesive set of courses that offer a foundation in another area of study. A minor usually consists of 4.0 credits.

In many programs, you can pursue a **concentration**, **specialization** or **stream**, where you study a selection of specialized courses that relate to your degree program.

Some programs are offered as **Combined Honours** degrees, where you fulfill the degree requirements of two major programs.

Adding a minor

The following programs can be taken as a minor, but are available as major programs as well:

African Studies • Anthropology • Applied Linguistics and Discourse Studies • Art History • Biology • Business • Canadian Studies • Chemistry • Communication and Media Studies • Computer Science • Criminology and Criminal Justice • Earth Sciences: Earth Resources and Processes • Economics • English • Entrepreneurship • Environmental Studies • European and Russian Studies • Film Studies • Food Science • French • Geography • Geomatics • Greek and Roman Studies • History • History and Theory of Architecture • Human Rights and Social Justice • Indigenous Studies • Law • Linguistics • Mathematics • Music • Neuroscience and Mental Health • Philosophy • Physical Geography • Physics • Political Science • Psychology • Religion • Sociology • Statistics • Women's and Gender Studies

A minor in Business designed specifically for Engineering students is also available.

The following programs are offered exclusively as minors:

Archaeology

The minor in Archaeology allows students from any discipline to pursue a wide variety of approaches to the field of archaeology. Courses are drawn from the Greek and Roman Studies program as well as from allied subjects, such as Earth Sciences, Geography, Anthropology and Art History. Students have the option to receive credit for participation in archaeological projects worldwide, including the Gabii Project (Italy), run in collaboration with Carleton faculty.

Arts Management

Arts and culture has become an important sector of Canadian industry, with ties to tourism, education and government. This minor is designed to equip students with the business and management skills to pursue careers in arts and culture, whether in institutions or as sole practitioners.

Christianity Studies

Take a credit in a specified Religion survey course, half a credit in a survey course on ancient Judaism or Greco-Roman Religion, plus 3.0 credits in courses pertaining to the study of Christianity from Religion, or—with the approval of the Religion coordinator—from another discipline.

Design

The minor in Design provides an opportunity for students to learn the fundamentals of design and creatively integrate them into their main field of study. Students will learn about the design of products, systems, services and experiences with consideration of how they are related to environmental, psycho-social and economic factors, and their contribution towards a better quality of life.

Digital Humanities
This minor engages with powerful trends in the discipline of English studies to equip you with critical thinking and cultural literacy skills. You will be able to harness the theoretical and creative possibilities opened up by computing technologies, networks and digital culture. Explore the ways in which digital technologies are transforming reading, writing and literature, and providing new insights into our textual past.

Disability Studies
This minor allows students to explore the ethics, politics, history and contemporary cultural dynamics of 'disability' from an interdisciplinary perspective. Students will focus on the discourses that create the category of disability in society.

Drama Studies
Through the combination of academic courses taught by scholars and drama workshops led by theatre practitioners, the minor allows students to develop skills in the areas of Theatre Criticism and Dramaturgy (the study of dramatic composition). Course options include workshops in acting and stagecraft, as well as in writing for stage and screen, along with intensive studies of world and historical drama, including Shakespeare.

Heritage Conservation
The discipline of Heritage Conservation is undergoing a period of expansion and evolution. Carleton's minor in Heritage and Conservation provides students with an opportunity to critically examine definitions of heritage, why it matters, who it serves and who makes decisions as to what is preserved. Carleton offers a unique minor that addresses intersecting questions surrounding built heritage, intangible heritage, memory studies, sustainable heritage conservation, cultural landscapes, Indigenous and settler heritage, commemoration and tourism.

Industrial Economics
Offered through the Department of Economics, this minor is designed for engineering students who wish to learn the aspects of economics that are most relevant to their major.

Islamic Studies
Take a half-credit in a specified Religion survey course, plus 3.5 credits in courses pertaining to Islamic studies from Religion or—with the approval of the Religion coordinator—from other disciplines.

Jewish Studies
Take a half-credit in a specified Religion survey course, plus 3.5 credits in courses with a Jewish theme from Religion or—with the approval of the Religion coordinator—from other disciplines.

Latin American and Caribbean Studies
Learn about the diverse politics, cultures and economies of this exciting region through perspectives drawn from disciplines such as Political Science, Sociology and Anthropology, Human Rights and Social Justice, History and Law. One objective of this minor is to provide a community for students interested in Latin American and Caribbean Studies. This minor also presents students with new possibilities in research and participation in community-building.

Medieval and Early Modern Studies (MEMS)
Gain an interdisciplinary understanding of the Middle Ages and the early modern period, as experienced not only in European and Byzantine contexts but also in the Islamic world. The MEMS minor offers a pathway for students to explore these periods by linking together many courses offered at Carleton in different departments.

Modern Languages
Learning to communicate in a second or additional language can be an enriching and fulfilling part of your educational experience. It can also open many doors in the worlds of work, travel and future education. Minors are available in the following modern languages: American Sign Language (ASL), German, Italian, Japanese, Korean, Mandarin Chinese, Russian and Spanish.

News Media and Information
Perhaps you're looking to enhance your understanding of news media while studying a discipline other than Journalism. This minor explores journalism's roots, evolution and vital role in modern democracies. Offering instruction beyond basic news literacy, the minor will familiarize you with the all aspects of news work through various courses, from media law and ethics to contemporary digital disruptions.

Performance in the Public Sphere
Performance studies has emerged in Europe and North America as a new, interdisciplinary field of study. It has taken shape in different institutions, combining the humanities and social sciences in a variety of ways: including considerations of the theatre arts, dance, music, literature, media studies, architecture, public policy, political science, history and other disciplines. This minor brings a ground-breaking new field of enquiry to Carleton and enables students to experience the capital advantage to its fullest.

Professional Writing
This minor teaches professional writing as a network of skills and cultural practices. Students learn how to tailor their writing to specific contexts, and the program offers exciting opportunities to gain experience writing in the workplace. Writing is one of the most valuable transferable skills in today's knowledge-based economy, and our students leave prepared for their professional lives in government, NGOs, medical institutions and beyond.

Quebec Studies
This minor allows students to develop an interdisciplinary understanding of Quebec. As a distinct society, Quebec's rich historical tradition and a vibrant culture is explored through the study of history, culture, literature and politics, while students also reach an advanced level of French-language proficiency. Students will be able to participate in experiential learning opportunities including a course in Quebec City. Knowledge of Quebec and of French is a definite asset for students interested in career opportunities such as government, foreign affairs, cultural institutions, education, translation, tourism, etc.

Sexuality Studies
This minor offers an interdisciplinary approach to a rapidly evolving field of study. Examine sexuality in its historical context and through current social, political and cultural practices. Topics include queer and trans theory and politics, marriage and the family, pornography and censorship, reproductive rights and HIV/AIDS activism.

South Asian Studies
The minor in South Asian Studies engages students in the cultures, histories and literature of what is now India, Pakistan, Bangladesh and Sri Lanka. The courses examine a wide variety of cultural elements unique to South Asian culture, such as South Asian religions, philosophies, art, music, film and English literature. In doing so, the minor engages students in one of the world's most prominent regions and cultures through both historical and contemporary lenses.

Technology, Society, Environment Studies (TSE)
Multidisciplinary in nature, the TSE minor addresses the problems that have been created by the interactions of technology, society and the environment. The courses in this program cover a wide range of topics from technology in ancient societies to contemporary issues in risk, innovation, forecasting, information technology, environmental sustainability, product life cycle analysis, energy use and the philosophy of technology.

Urban Studies
Urbanization has become a defining feature of the twenty-first century. Rapidly urbanizing areas pose both challenges and opportunities with regards to sustainability, social justice, equity and human rights. The minor in Urban Studies helps students understand how cities work (or fail to work), and provides the concepts and skills needed to tackle critical questions of metropolitan governance, urban development and quality of life. It serves as a springboard for students interested in urban planning, community activism, working in urban policy in the public or non-profit sectors, or pursuing further studies in a related field.

Through Carleton's co-op program, Computer Science student Kevin Guy and Software Engineering student Shasthra Ranasinghe worked with DRS Technologies Canada. They worked on a small team to develop software for an all-new deployable flight recorder.

Co-op and career opportunities

carleton.ca/co-op

The majority of our undergraduate programs include co-operative education (co-op) or work-study opportunities, which allow you to take theoretical concepts from the classroom and apply them to solving real-world problems in your field of study.

These work opportunities allow you to develop the tangible skills that employers are looking for. The strong industry and government connections that Carleton has built over the years have helped us to create many valuable work opportunities for our students. We are fortunate to work with employers who are happy to come to our campus to offer students career advice and, for some, employment when they graduate.

Co-operative education

Carleton's co-op program is diverse and flexible. Co-op options are available in over 100 programs, streams and concentrations at the undergraduate level and in a select group of programs at the graduate level. Choosing to participate in the co-op option in your program means you will alternate your periods of study with four, eight, 12 or 16-month work terms with employers relating to your program of study. Typically, you will take an additional year of study to complete all academic and co-op program requirements, develop your work skills and acquire relevant industry experience. Co-op work opportunities are full-time, paid working opportunities.

Students participating in co-op must take the required preparatory course, COOP 1000, and pay co-op program fees. This online course

provides information on the co-op program's structure, regulations and expectations for participation. Course material will cover skills assessment, resume and cover-letter writing, interview preparation and transitioning to the workplace, among other topics.

Admission to co-op

You can apply for the co-op option at the same time as you are applying to your academic program. Your offer of admission will indicate if you have been admitted to the co-op program. If you did not request co-op when you applied, you may still apply for admission to co-op during your first year of study. Deadlines may vary, depending on the degree program. Students admitted to Carleton with an ESL course requirement must pass the Oral Proficiency in English in Communicative Settings (OPECS) test with a minimum score of 4+, before admission to the co-op program can be confirmed. Information on this test can be obtained by contacting the Co-operative Education Office.

Other work experience

Co-op programs are only one option for gaining work experience during your university studies. Many of our programs offer practicum or internship opportunities, both of which allow you to gain work experience, learn new skills and make important contacts.

International internships

Career Services also leads an International Internship Program, which connects students in all degree programs with a wide range of internship opportunities around the world for academic credit.

Working in your degree

To find out what work opportunities are available in your degree, visit the degree program page or section.

Career development

Career Services assists Carleton students not only in making the transition from school to work, but also in developing their professional skills starting in first year. Professional career counsellors and career consultants guide students through the discovery of a personal career path with a focus on how to set career goals and achieve them. Students also have many opportunities to connect with industry professionals through a variety of activities.

Fourth-year biology student Sarita Cuadros Sanchez performs lab work in her role as Research Assistant while on a co-op work term at Health Canada's Consumer and Clinical Radiation Protection Bureau.

Services available to students include:

- access to a variety of job postings on mySuccess, our online job search system that lists part-time and full-time jobs, on-campus employment, volunteer and internship opportunities, and more;
- extensive offerings of employment workshops available in person and online;
- year-round career counselling and employment advising sessions (available by appointment or drop-in) with career consultants;
- information sessions and panel discussions with key industry employers; and
- multiple Career Fairs, networking events and a Graduate School and Education Fair.

Looking for ideas on what you can do with your degree? Visit Your Degree, Your Future **students.carleton.ca/degree-to-future**.

Are you planning on pursuing a professional designation such as an accountant, dentist, doctor, lawyer, pharmacist, teacher or veterinarian? Many of Carleton's undergraduate programs are a great foundation for this next step. Co-op hours can also be used toward these professional designations.

Courtesy of Ottawa Tourism

The city of Ottawa provides ample opportunities for those looking for work experience or a career after graduation. It is home to a vibrant business sector, a strong high-tech industry, numerous cultural institutions (such as the Canadian Museum of History, pictured), and some of Canada's most influential government and non-governmental organizations.

The Carleton community

students.carleton.ca

As a Carleton student, you'll have access to our unparalleled package of academic and co-curricular initiatives designed to support your complete university experience and promote a culture of success. You'll also have many opportunities to get involved in community-building activities both on and off-campus.

Student Experience Office

The Student Experience Office (SEO) can help you adjust to university life and offers ways for you to get involved throughout your time at Carleton. The office oversees a wide variety of programs, such as:

- Summer and Fall Orientation sessions;
- First Year Connections peer mentorship;
- Community service-learning initiatives, such as Alternative Spring Break; and
- Leadership development programs, such as the Campus Activity Board.

carleton.ca/seo

Centre for Student Academic Support

The Centre for Student Academic Support (CSAS) is a centralized collection of services designed to improve learning inside and outside the classroom. The office provides peer-led individualized and group-based academic support services to provide you with university-level learning strategies. CSAS oversees a wide variety of programs, such as:

- Peer Assisted Study Sessions (PASS);
- Learning Support Workshops;
- Learning Support Sessions; and
- Writing Services.

carleton.ca/csas

Academic Advising Centre

The Academic Advising Centre offers all students, including transfer students, with dedicated support through academic advising, assistance with understanding the Academic Audit and Academic Status Report (ASR) and advice on changing programs or adding elements.
carleton.ca/academicadvising

International Student Services Office

The International Student Services Office (ISSO) offers services and programs that contribute to positive international experiences for all Carleton students. The office is dedicated to helping international and exchange students adjust to life in Canada and get the most out of their student experience. The ISSO supports and encourages Carleton students in gaining international exposure both locally and abroad through volunteer opportunities, international internships and co-op, and participation in exchange or study abroad programs.
carleton.ca/isso

University Registrar's Office

The University Registrar's Office manages the academic activities and records of all students and helps with transcript requests, course registration and more. **carleton.ca/registrar**

Supportive facilities

MacOdrum Library

The library houses a collection of books, journals, government documents, maps, newspapers, board games, video games, graphic novels, music scores, CDs, microforms, archives and rare materials, including a wide range of electronic resources available any time via the web. While in the building, you can take advantage of the Laptop Loan program. Experienced staff throughout the library are available in person, by phone and online to help students with everything from research to data services. **library.carleton.ca**

Paul Menton Centre for Students with Disabilities

The Paul Menton Centre (PMC) coordinates academic accommodations and support services for students with disabilities. Services include academic accommodations, attendant services, alternate formats, adaptive technology, note-taking, sign language interpretation, learning support and services specific to students' educational-related disability needs. **carleton.ca/pmc**

Health and Counselling Services

Carleton's newly renovated, multidisciplinary on-campus healthcare facility provides medical and counselling services, a resource centre and a health promotion program for Carleton students. **carleton.ca/health**

Co-Curricular Record

Attending classes is only one part of your university experience. Campus life is also about joining clubs and societies, attending special events and lectures, hanging out with friends and participating in one of our community outreach programs.

We encourage our students to become active members of the larger community. Participation in community service-learning activities and involvement in student organizations are acknowledged in our Co-Curricular Record (CCR), which will track your out-of-class learning experiences and become part of your official record from Carleton University. **carleton.ca/seo/ccr**

An accessible and inclusive campus

We are strongly committed to providing an environment where everyone is able to study, work and live free of discrimination or harassment. Carleton's Department of Equity and Inclusive Communities (EIC) and student-run organizations administer numerous on-campus centres and programs that foster diversity, equality, dignity and respect.

Some of the centres and programs that support our diverse community include: the Centre for Indigenous Initiatives; Sexual Assault Support Services; REC Hall (Race, Ethnicity and Culture Hall); Womxn's Learning, Advocacy and Support Centre; Carleton Disability Awareness Centre; Spirituality Centre; Muslim prayer room; and, the Carleton University Safer Spaces Program which supports Carleton's sexual orientation and gender equity policies.

For information on Carleton's human rights policies and procedures, visit **carleton.ca/equity**.

Clubs and societies

Our extensive network of clubs and societies is another great way to meet new people and pursue your interests outside the classroom. With more than 300 active clubs and societies to choose from, you will certainly find a venue for your academic, social, political or charitable interests. For a complete list of all our clubs and societies and their contact information, visit **cusaonline.ca**.

Students giving back

When you get to Carleton, you will be joining a student body that has a history of offering support to others.

Shinerama–Since 1984, students have spread out across the city during Fall Orientation to wash cars and shine shoes to raise money for Cystic Fibrosis.

Alternative Spring Break–This popular program has given students the opportunity to volunteer on community service projects in Ecuador, Guatemala, Costa Rica and more.

Enhance your degree at the Discovery Centre

The Discovery Centre is a collaborative and creative student study space on the fourth floor of the MacOdrum Library. With sofas, and mobile tables and chairs, it has been designed for students to configure their study space to suit their needs. Media booths are also available with large screens for connecting laptops or tablets to make group work engaging and easy. To assist with creativity, there are also two treadmill desks for study while walking, a Gaming Lab, a Multi-media Lab and a Learning Lab. The Discovery Centre is also a resource for connecting you with hands-on learning through international experiences, community engagement, immersive learning and undergraduate research. **carleton.ca/discoverycentre**

Discover your pathway to graduation

Pathways to Graduation is designed to help guide you along a path to graduation that is right for you. From the start of your degree to the day you graduate, Pathways to Graduation helps you to transition through each phase of your undergraduate degree and reach your ultimate goal of graduation. **pathways.carleton.ca**

Stay connected

Current students can explore all of our student services at **students.carleton.ca** and connect with Carleton on Twitter and Instagram **@Carleton_U** and on Facebook at **facebook.com/carletonuniversity**.

Carleton Therapy Dogs and their handlers, who are staff and faculty members, host regular office hours throughout the year to provide *pawsitive* support and encourage well-being for the Carleton community.

Living in residence

housing.carleton.ca

If you want to experience university life as a member of a vibrant, close-knit community, consider living in residence. You will love living minutes away from your classes, the library, athletics and a large dining hall.

For many students, choosing to live on campus is one of the best decisions they make. Over 3,600 students choose to live in residence.

In residence, you will have the opportunity to meet people from around the world and make friendships that last a lifetime. You will be supported by a network of Residence Life staff who are there to assist you in any way they can.

First-year guarantee

At Carleton, a double traditional room is guaranteed to all secondary school and CEGEP students entering first-year studies in the fall, provided they receive an offer of admission on or before May 14, 2021. You are required to pay the deposit and accept the residence offer online by June 8, 2021 at 4:30 p.m. ET to confirm your space. If you do not qualify for a guaranteed space in residence, you can still apply. A lottery determines offers for all other residence applications. **housing.carleton.ca/applying-to-residence**

What does residence offer?

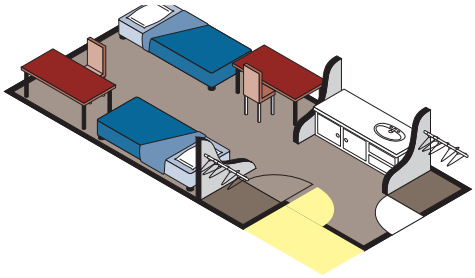
Campus connections

We understand that students are always on the go. Our residence buildings are conveniently located and connected to each other, and to the rest of campus, via underground tunnels, enabling you to get to class, meals or workouts within minutes. You'll find it easy to arrange meetings with friends, study partners or professors. With the conveniences—not to mention the unique living experience—that residence offers, you will be glad that you chose to make residence your home away from home.

Two living styles

Our residences offer two types of rooms—traditional or suite-style rooms. The majority of our rooms for first-year students are traditional single-gender double rooms, with shared washroom facilities. Our suite-style rooms, which provide another option, each consist of a four-person suite (either two doubles or four singles) most of which are single-gender and a shared common area, washroom facility and food-preparation area (with fridge and microwave). A limited number of single rooms are available in both styles.

Roommates are an integral component of the Carleton residence life experience. You can request a specific person (who also must request you in order to be placed together) or be matched with another student based on the responses



A traditional double room in Stormont and Dundas House.

you provide on the Residence Information Form. Sharing a residence room can be an enriching and supportive experience as you transition into university life, and may even lead to life-long friendship.

Gender inclusive living
Students may request to share a gender inclusive bedroom/pod/suite (including the common areas and bathroom facilities). If you choose this option, your room/pod/suitemates will be assigned through the matching of responses to the profile questions, regardless of with which gender you or they identify. Please note that if you select "yes," you are agreeing to share a room (and bathroom, etc.) with a student who may be a different gender than the one with which you identify. (For example, if you identify as female, you could be sharing a room with a student who identifies as male or non-binary, who selected "yes" to this question and has similar preferences.)

All Access Meal Plan
First-year students living in residence will be enrolled in the All Access Meal Plan, which provides unlimited entry into our residence dining hall, *the caf*, and $100 Dining Dollars. For students living in suite-style residences, there is a Reduced Meal Plan option, which offers ten meals per week and $300 Dining Dollars. *The caf* sources food locally, accommodates dietary needs and offers an "all you care to eat" experience featuring a variety of meals cooked right in front of you. Visit **housing.carleton.ca/fees-and-food** for further information.

Getting involved
Living in residence is a great way to learn and gain experience outside of the classroom. Becoming involved in your communities is also a wonderful way to develop relationships with peers.

In residence, there are several ways you can do this, including volunteering as a Mental Health Champion, visiting the Raven's Roost, and participating in events, programs and committees in and around residence. **housing.carleton.ca/get-involved**

Residence meals are served in our large, newly renovated dining hall, *the caf*, in Residence Commons which offers a wide selection of healthy and nutritious foods.

An extensive support network
Embarking on a new chapter in life, especially when living on your own for the first time, can take some getting used to. Carleton's award-winning Residence Life program has been designed to help with this transition so you can reach your academic and personal goals. Our extensive residence support network includes residence counsellors, live-in residence staff and a focus on learning outside the classroom. **housing.carleton.ca/living-in-residence**

Cost
Fees for traditional residence for 2020-2021 range from $11,138 (double occupancy) to $12,303 (single occupancy) and cover the cost of your room, communication fees and an All Access Meal Plan. Suite-style residences range from $12,390 (double occupancy) to $13,629 (single occupancy) with an All Access Meal Plan. Detailed information about the cost of residence is available at **housing.carleton.ca/fees-and-food**.

Off-campus accommodation
Information regarding off-campus housing is available on our website. **housing.carleton.ca/off-campus-housing**

The Carleton Ravens Women's Basketball team faces off against crosstown rivals, the uOttawa Gee-Gees.

Carleton Athletics

athletics.carleton.ca | goravens.ca

RAVENS

WHERE CHAMPIONS PLAY

Carleton Athletics is the active hub of the Carleton community. Through teamwork, we deliver excellence in sport, health and life.

As a Carleton student, you can take full advantage of our first-class athletic facilities, conveniently located in one area of campus. You can sign up for fitness classes, swim laps in the pool, lift weights, run on a treadmill in the 11,000 sq. ft Fitness Centre or get together with friends to play one of your favourite sports during open recreation time. A little friendly competition never hurt anyone, so why not try one of our intramural or inter-university club teams? If you are looking for a bigger challenge, consider trying out for a spot on one of our men's or women's varsity teams. Whatever your level of fitness, you are sure to find something here that suits you.

Ravens Centre

At Carleton Athletics, we dare you to challenge yourself. Our facilities are your one-stop shop for all things athletic. The Ravens Centre houses a 50-metre L-shaped pool, a Fitness Centre, two NHL-sized ice pads, an indoor track, gymnasiums, five international squash courts, and sports medicine and sports therapy clinics.

Alumni Hall

This building is home to the Ravens' Nest, a triple gymnasium that, when not serving as home court for 1,500 cheering basketball fans, is open to students for basketball. This building also houses our Fitness Centre with over 50 cardio machines and a great selection of weight training equipment.

Fieldhouse

Stretch your legs on a 4,500 sq. m sports field and a 230 m, two-lane indoor jogging track. Rain or shine, members of Carleton Athletics benefit from access to the Fieldhouse. The facility is the perfect spot for a pick-up game of soccer or Ultimate in the winter months.

Join a team or watch a game

Varsity Teams	Competitive Clubs	Intramurals
Basketball ..... MW	Baseball ..... M	Ball Hockey ..... CO
Fencing ..... MW	Curling ..... MW	Basketball ..... MWC
Football ..... M	Equestrian C	Dodgeball C
Golf ..... MW	Figure Skating C	Flag Football ..... MC
Hockey ..... MW	Lacrosse ..... M	Ice Hockey ..... MC
Nordic Skiing ..... MW	Ringette ..... W	Indoor Soccer ..... MC
Rowing ..... MW	Rugby ..... M	Indoor Ultimate C
Rugby ..... W	Swimming ..... MW	Volleyball C
Soccer ..... MW	Track and Field ..... MW	And more...
Water Polo ..... M	Ultimate ..... MW	
	Water Polo ..... W	
	And more...	

M=Men, W=Women, C=Co-ed, O=Open

Ice House

Take advantage of some of the best ice in the city year-round on our two NHL-sized ice surfaces. The $13M arena is the most comprehensive facility of its kind in central Ottawa. Students can access the rink for pick-up hockey games, skating lessons and open skate sessions.

Outdoor field

Carleton's indoor venues are enhanced by excellent outdoor facilities, including the newly-renovated, 3,000-seat MNP Park, complete with FIFA-standard artificial turf, a multi-purpose field and five tennis courts.

Follow **@ravenscentre** on Facebook and Instagram for updates, fun content and all things Carleton Athletics!

Fitness classes for everyone

Getting in shape shouldn't be a chore, so have fun and invigorate your body with one of our many fitness programs. Discover what Carleton Athletics has to offer. With over 120 exciting classes offered each week, there's something for everyone!

Some of the classes we offer include:

- Aquafit
- CU Boot Camp
- Dance
- Group and specialty fitness
- Indoor group cycling
- Martial arts
- Skating
- Yoga and Pilates
- Zumba

With so many options, it can be difficult to choose just one. That's why we've introduced the CUFit Pass, which offers more variety and flexibility, giving you access to a variety of fun drop-in classes. For a complete listing of classes offered and for more details on all of our programs, visit **athletics.carleton.ca**.

Intramurals

Not ready for the commitment of a varsity or club team? You can still show off your skills and battle for a league title and all its glory with Carleton's intramural leagues. Both team and individual registration are available online at **athletics.carleton.ca/leagues** or in person at the Welcome Centre.

Varsity sports

Are you interested in proudly donning the Raven for one of our varsity teams or competitive clubs? Visit **goravens.ca** for the latest information on the Ravens, including tryout dates and coaches' contact information.

Cheering on the Ravens

Even if you don't play on a team you can still get the Ravens experience! Deck yourself out in red and black, crank up the noise level and be part of the unbeatable atmosphere at our home games.

Rodney's House

Swing by Rodney's House, our merchandise store and box office, in Alumni Hall to pick up some Ravens gear and grab your tickets before the game! For full schedules, see **goravens.ca/events**.

Follow **@curavens** on Facebook, Twitter and Instagram to keep up with all of our varsity teams and athletes!

Have any questions? Email us at **tickets@carleton.ca**. We would love to hear from you.

Ravens win!

In 2019-2020, nearly 1,000 Carleton University students suited up for the Ravens and competed in U SPORTS, OUA and competitive club leagues across the province and country.

The Ravens won one U SPORTS national championship in 2019-2020 (Men's Basketball) and took home OUA championship banners in Men's Basketball, Men's & Women's Nordic Skiing and Men's Soccer. On the road to these accomplishments, our athletes racked up OUA All-Star awards, Peak Performer awards, U SPORTS major awards and All-Stars, as well as a multitude of Athlete of the Week honours.

All three of Carleton's major off-campus sporting events were held at TD Place for the first time this past season. Once again, the annual Panda Game was sold out with over 24,000 fans in attendance. The Colonel By Classic and Capital Hoops Classic games provided some unforgettable chapters in the ongoing Ravens/Gee-Gees rivalry. The year was capped off with the U SPORTS Final 8 basketball championships hosted in Ottawa, where the Ravens men's team staged an epic comeback to with the gold medal.

To be a part of a Ravens Varsity team or competitive club, please visit **goravens.ca** for tryout times and registration.

Tuition, bursaries and scholarships

carleton.ca/awards

We are pleased to offer our students one of the most generous scholarship programs in the country. Last year, more than 12,000 scholarships and bursaries totalling over $24 million were awarded to undergraduate students. Contact our Awards and Financial Aid Office to get information on all your financial assistance options.

Entrance Scholarships

If you have been admitted to Carleton with an admissions average of 80 per cent or better, you will automatically be considered for a renewable Entrance Scholarship at the time of admission. The admission average we use is calculated from the grades submitted by your high school in support of your application. Entrance Scholarships are offered for fall entry only. You may be offered a renewable Entrance Scholarship provided you are entering Carleton for the first time from high school or CEGEP and have no previous attendance at post-secondary educational institutions. To be considered for an Entrance Scholarship, Carleton's Admissions Services must receive your complete application for admission and all required grades (either directly or through the Ontario Universities' Application Centre) by June 1. Entrance Scholarship offers are not assessed or reassessed on final high school grades.

Prestige Scholarships

Our highest awards are our Prestige Scholarships. You will be considered for a Prestige Scholarship only if you are entering Carleton directly from high school or CEGEP. For all Prestige Scholarships, you must achieve an admission average of 90 per cent or better. The selection committee will also assess the range of your community or secondary school extracurricular activities. An application is required. Deadline is March 1.

Other Entrance Scholarships

Carleton Capital Scholarship

Up to 13 students will be selected annually, with one recipient for each province and territory, to receive a $2,000 award in their first year. The Carleton Capital Scholarship is awarded in addition to other Entrance Scholarships.

To be eligible for the Carleton Capital Scholarship, students must be Canadian citizens, permanent residents or protected persons entering the first year of a degree program and pursuing post-secondary studies for the first time. Students must also demonstrate participation in extracurricular activities and a strong academic background (with a minimum admission average of 90 per cent). An application is required. Deadline is March 1.

Sprott School of Business Scholarships

The Dean's Entrance Scholarship of Excellence, valued at $2,000 or $4,000, will be awarded to the top students entering the first year of the Bachelor of Commerce program. This scholarship is awarded in addition to other Entrance Scholarships.

Faculty of Engineering and Design Scholarships

Up to 60 scholarships, valued at $1,000 to $5,000, will be awarded to the top students who

are entering selected Bachelor of Engineering programs. The scholarship is awarded in addition to other Entrance Scholarships.

Page Program Entrance Scholarships

Up to 15 scholarships will be awarded to students in the House of Commons Page Program who are entering an undergraduate degree program at Carleton. Valued at $1,000, the scholarship is awarded in addition to other Entrance Scholarships.

Arthur Kroeger College National Scholarships

Up to 10 scholarships will be awarded to students entering the Bachelor of Public Affairs and Policy Management program. Two students (minimum admission average of 90 per cent) will be selected from each of the following five regions:

- Atlantic Canada
- British Columbia and Northern Canada
- Ontario
- Prairies
- Quebec

Valued at $2,000, the scholarship will be awarded in addition to other Entrance Scholarships.

Collins Memorial Entrance Scholarships for Earth Sciences

Two or more scholarships, valued at $1,000 to $4,000, will be awarded to students entering the first year of an Earth Sciences program. The scholarship is awarded in addition to other Entrance Scholarships.

Bursaries

A bursary is a monetary award similar to a scholarship in that you are not expected to repay it, but is awarded primarily on financial need rather than academic achievement. A Carleton University Entrance Bursary will provide you with additional funds and will help you meet the direct education costs of your first-year studies. To be considered for an Entrance Bursary, apply online by June 30.

Leadership Entrance Bursary

High school students who have taken a leadership role in their school's extracurricular activities and in community service may also be considered for a Leadership Entrance Bursary. An application is required. To learn more, visit the bursary information on the Awards and Financial Aid website.

Working on campus

A great way to offset the expense of university is to have a part-time job on campus. At Carleton, most campus units hire students throughout the academic year. Senior students can often find positions with departments as research assistants. A part-time job not only puts extra money in your pocket, but also provides valuable job experience at the same time. Visit the Career Services website to check out online job postings.
carleton.ca/career

Work Study Program

The Work Study Program provides part-time, employment at Carleton for those students demonstrating financial need. Students can learn more by accessing the Work Study information on the Awards and Financial Aid website.

Other funding

If you are currently attending an Ontario high school, your guidance office can provide information on the Ontario Student Assistance Program (OSAP), which may help cover the cost of your post-secondary studies. Similar programs exist in other provinces.
ontario.ca/osap

Find out about additional financial assistance from the Carleton Awards and Financial Aid Office at **carleton.ca/awards** or from the federal government's website **canlearn.ca**, which provides in-depth information on government financial assistance and private scholarships.

Renewable Entrance Scholarships

No application required.

Admission average	All renewable at A- standing*
95-100%	$16,000 ($4,000 x four years)
90-94.9%	$12,000 ($3,000 x four years)
85-89.9%	$8,000 ($2,000 x four years)
80-84.9%	$4,000 ($1,000 x four years)

*Annual GPA of 10.0

Prestige Scholarships

All renewable at A- standing*
Minimum 90 per cent admission average and extracurricular activities. Application required.
Deadline: March 1

Chancellor's Scholarship (10)	$30,000 ($7,500 x four years)
Richard Lewar Scholarship (7)	$21,500 ($6,500 in the first year and $5,000 in second, third and fourth year)
Carleton University Scholarship of Excellence (3)	$20,000 ($5,000 x four years)
Carleton's Shad Valley Scholarship of Excellence (2)	$20,000 ($5,000 x four years)
Riordon Scholarship (1)	Full tuition in first, second, third and fourth year
Collins Prestige Scholarship (1)	Full tuition in first, second, third and fourth year

*Annual GPA of 10.0

Your tuition, your investment

Living on campus

Tuition and miscellaneous fees (2020-2021)	$7,262 - $11,807
Traditional residence room and board*	$11,138
Books and supplies (varies according to program)	$1,400
Personal expenses	$2,000
Total	**$21,800 - $26,345**

Living off campus

Tuition and miscellaneous fees (2020-2021)	$7,262 - $11,807
Off-campus housing**	$8,600
Books and supplies (varies according to program)	$1,400
Personal expenses	$2,000
Total	**$19,262 - $23,807**

Tuition fees for international students range from $28,183 - $39,798 (CDN).

** Based on double room, includes an All Access Meal Plan and technology fees (internet and Wi-Fi).*
*** Estimate based on eight months of rent (shared accommodations) and groceries.*
carleton.ca/fees

Start your journey

*SOME PROGRAMS HAVE EARLY APPLICATION DEADLINES AND SOME PROGRAMS REQUIRE ADDITIONAL ADMISSION MATERIAL. FOR MORE INFORMATION, VIEW PAGES 70 TO 71.
THIS TIMELINE IS BASED ON THE 2020-2021 ACADEMIC YEAR.

SEPTEMBER 2020
- THE ONTARIO UNIVERSITIES' APPLICATION CENTRE (OUAC) APPLICATION OPENS.

OCTOBER
- JOIN US FOR FALL OPEN HOUSE.

NOVEMBER
- EARLY ADMISSION PERIOD BEGINS.
- PROGRAM-SPECIFIC SPECIALTY TOURS OFFERED.

DECEMBER

JANUARY 2021
- ADMISSION PERIOD BEGINS.
- JANUARY 15, 2021: DEADLINE FOR ONTARIO SECONDARY SCHOOL STUDENTS TO SUBMIT APPLICATIONS TO THE OUAC.*

PLEASE NOTE THAT ALL IN-PERSON EVENTS SCHEDULED TO OCCUR THIS ACADEMIC YEAR WILL BE HELD AS VIRTUAL EVENTS UNTIL PUBLIC HEALTH LOOSENS PHYSICAL DISTANCING MEASURES.


EARLY APPLICATION DEADLINES. SEE PAGE 70.
MARCH 1, 2021: DEADLINE TO APPLY FOR A PRESTIGE SCHOLARSHIP.
EARLY APPLICATION/ ADDITIONAL ADMISSION MATERIAL DEADLINES. SEE PAGE 70.
ADDITIONAL ADMISSION MATERIAL DEADLINE. SEE PAGE 70.
GENERAL APPLICATION DEADLINE FOR FALL ADMISSION.*
DEADLINE TO ACCEPT AN OFFER OF ADMISSION FOR ONTARIO HIGH SCHOOL STUDENTS.
DEADLINE TO APPLY FOR AN ENTRANCE BURSARY.
FEBRUARY
MARCH
APRIL
MAY
JUNE
PROGRAM-SPECIFIC SPECIALTY TOURS OFFERED.
JOIN US FOR MARCH BREAK OPEN HOUSE.
PROGRAM-SPECIFIC SPECIALTY TOURS OFFERED.
JOIN US FOR SPRING OPEN HOUSE.
DEADLINE TO ACCEPT AN OFFER OF RESIDENCE AND PAY THE RESIDENCE DEPOSIT.

Admission to Carleton

admissions.carleton.ca/apply

How to apply

All students interested in Carleton must apply online through the Ontario Universities' Application Centre (OUAC) website at **ouac.on.ca**. If you are presently finishing your last year of high school in Ontario, you must obtain login information from your school's guidance office before applying online.

Application deadlines

The following deadlines apply for admission to Carleton University for fall term (September to December).

High school students in Ontario
Ontario high school students should submit their application to the OUAC by January 15, 2021.

High school students in Canada (excluding Ontario)
CEGEP students
USA students
The general application deadline for fall admission is June 1. Some programs have early application deadlines and some programs require additional admission material.

International students
The application deadline for students with documents originating outside Canada or the United States is April 1. Some programs have early application deadlines and some programs require additional admission material.

The deadline to apply for admission to Carleton University for winter term (January to April) is November 15.

Early application deadlines

The following deadlines apply for admission to Carleton University for select programs for fall term (September to December). Additional admission material may be required. **admissions.carleton.ca/requirements**

Architectural Studies
Application deadline: March 1
Portfolio deadline: March 1

Humanities
Application deadline: March 1
Portfolio deadline: March 1

Industrial Design
Application deadline: March 1
Portfolio deadline: April 1

Information Technology: Interactive Multimedia and Design
Application deadline: March 1
Portfolio deadline: March 1

Journalism
Journalism and Humanities
Application deadline: March 1

Music
Application deadline: March 1
Audition booking deadline: March 1

Social Work
Application deadline: February 1
Supplementary application deadline: March 1

Admission requirements

All admission information should be used as a guide only. Programs have limited enrolment and cut-off averages may vary from year to year. In determining admissibility, Carleton reserves the right to take into account repeated courses,

grades in specific subjects and other aspects of the student's academic record.

Students in Canada

High school students

For admission requirements by degree program, view the Ontario admission requirements on pages 72 to 74. High school students in Canada (excluding Ontario) can supplement this information with the provincial requirements on page 76.

Ontario college students

Students from Ontario Colleges with a CGPA of 3.0 or higher are normally considered for admission after completing the first year of a two or three-year diploma program.

University students

Courses completed at another university may be eligible for transfer credit, depending on their applicability to the program to which you have applied and your final mark.

Students outside Canada

United States high schools or American-based high schools overseas

Minimum B- average, completion of Grade 12 with a minimum of 4 academic units and a minimum of 16 academic units completed during Grades 9-12. For some limited enrolment programs, a higher average may be required. Applicants are encouraged to submit SAT or ACT scores, school profile including accreditation information, school grading information including pass marks and rank in class to support their application. **carleton.ca/usa**

International high schools

Applicants who have completed high school diploma requirements in international high schools will be considered for admission to first year. As a general guideline, you will need a secondary school or high school graduation certificate. Education should normally consist of a minimum of 12 years of study. You will need to present transcripts from your senior high school, along with your graduation diploma or certificate and any graduation exam results. For some countries, applicants will be required to have completed one year of university studies. **carleton.ca/international**

Prerequisite courses

Prerequisite courses are necessary requirements for admission to particular programs. Prerequisite course marks are included in the average calculated for admission. If any prerequisites are not available at your school, please contact Admissions Services for possible alternative requirements.

Advanced placement (AP)

Applicants who have completed AP exams with a minimum grade of 4 will be granted appropriate advanced standing credit, subject to the discretion of the appropriate faculty, to a maximum of 3.0 credits.

International baccalaureate (IB)

If you are enrolled in an IB diploma program, you will need the full IB (three subsidiary and three higher level subjects), with a minimum of 28 points. Please note some programs are more competitive and will require higher scores. You must also have a grade of 4 or better in prerequisite subjects. IB students may be awarded advanced standing (transfer) credit for higher level subjects with a grade of 5 or better, subject to the discretion of the appropriate faculty, to a maximum of 3.0 credits.

Admission with an ESL requirement

The language of instruction at Carleton University is English. In their own interest, students whose first language is not English must demonstrate that they can cope with the language demands of an English language university. Students can demonstrate their English language proficiency by presenting official transcripts to indicate that they have studied for the last three years (full-time) in a high school, college or university in Canada, the United States, the United Kingdom or any other country in which the primary language is English and where the language of instruction in the relevant educational institution was exclusively English. Students choosing this option should note the following:

- time spent in ESL courses will not count towards meeting these requirements;
- language requirements will not be waived as a result of completing senior-level high school English courses;
- if a student provides an English language test score, in addition to evidence of three years of study, the university reserves the right to review the admissions decision; and
- the university reserves the right to request an English Language Proficiency test from any applicant regardless of their academic background.

Students who cannot demonstrate three full-time years in an English medium school as outlined above must present one of the English language test scores listed in the chart on this page.

Students with a language test score below those listed may still be eligible for an offer of admission but with an English language requirement. Students admitted with an English language requirement will begin studies in our **Foundation Program**. For more information on the language test score needed for an offer of admission with an English language requirement, go to **admissions.carleton.ca/esl**.

Please note that students beginning their studies with an English language requirement are not eligible for admission to the following programs:

- Architectural Studies
- Health Sciences
- Humanities
- Industrial Design
- Information Technology
- International Business
- Journalism
- Journalism and Humanities
- Media Production and Design
- Public Affairs and Policy Management

Enriched Support Program

For students whose high school grades do not reflect their academic potential, or for those who are apprehensive about returning to school after an absence, the Enriched Support Program (ESP) offers an opportunity for students to prove their academic ability in a structured university environment. ESP students can register in three full-credit first-year courses, which they supplement with regular weekly workshops offering academic support. After the ESP year, students who attain the necessary grade point average in their ESP courses are eligible for acceptance into a full-time degree program. **carleton.ca/esp**

Indigenous Enriched Support Program

The Indigenous Enriched Support Program (IESP) is an Indigenous stream of the ESP, offering admission opportunities as well as academic and social support for Indigenous, First Nations, Status and Non-Status, Métis, Inuit, and Indigenous Descent students in their first year of university studies. **carleton.ca/iesp**

English language test scores

Students presenting the following English language test scores may be eligible for an offer of admission with no ESL requirement and may begin full-time studies.

English Language Tests	Score
Canadian Academic English Language Assessment (CAEL)	70
Internet-based TOEFL (iBT)	86 (min. 22 in writing and speaking and 20 in reading and listening)
IELTS	6.5 IELTS (min. 6.0 in each band)
Pearson Test of English (PTE) Academic	60 (min. 60 in each Communicative Skill)
admissions.carleton.ca/esl	

Ontario admission requirements

Degree program	Areas of study		Required prerequisite courses	Minimum cut-off range	2019 incoming class average
Bachelor of Architectural Studies*	• Conservation and Sustainability◆ • Design◆ • Urbanism◆		• English (ENG4U) • Physics (SPH4U) • Advanced Functions (MHF4U)	75-77%	88%
Bachelor of Arts	• African Studies • Anthropology◆ • Applied Linguistics and Discourse Studies • Art History • Biology • Canadian Studies • Childhood and Youth Studies • Criminology and Criminal Justice • English◆ • Environmental Studies◆ • European and Russian Studies◆ • Film Studies • French◆ • Geography◆ • Geomatics◆	• Greek and Roman Studies • History◆ • History and Theory of Architecture • Human Rights and Social Justice • Indigenous Studies • Law◆ • Linguistics • Music • Philosophy • Political Science◆ • Psychology◆ • Religion • Sociology◆ • Women's and Gender Studies	All BA programs: • English (ENG4U) BA Biology: • English (ENG4U) • Chemistry (SCH4U) (Advanced Functions [MHF4U] and Calculus [MCV4U] recommended)	75-77%	83%
Bachelor of Cognitive Science	• Biological Foundations of Cognition◆ • Cognition and Computation◆ • Cognition and Psychology◆	• Language and Linguistics◆ • Philosophical and Conceptual Issues◆	• English (ENG4U)	75-77%	83%
Bachelor of Commerce	• Accounting◆ • Entrepreneurship◆ • Finance◆ • Information Systems◆	• International Business◆ • Management◆ • Marketing◆ • Supply Chain Management◆	• English (ENG4U) • Advanced Functions (MHF4U) • Calculus and Vectors (MCV4U)* *Students without Calculus and Vectors may be admitted conditionally and must successfully complete MATH 0009 in their first term of study.	80%	84%
Bachelor of Communication and Media Studies◆			• English (ENG4U)	75-77%	82%
Bachelor of Computer Science	• Algorithms◆ • Computer Game Development◆ • Computer and Internet Security◆ • Management and Business Systems◆	• Mobile Computing◆ • Network Computing◆ • Software Engineering◆	• Advanced Functions (MHF4U) • Calculus (MCV4U)	85-88%	88%
Bachelor of Economics	• Computational Analysis◆ • Development◆ • Economic Theory◆ • Economic Data Science◆ • Financial Economics◆	• International Political Economy◆ • Mathematics and Quantitative Economics◆ • Natural Resources, Environment, and Economy◆	• English (ENG4U) • Advanced Functions (MHF4U) (Calculus [MCV4U] strongly recommended)	75-77%	80%
Bachelor of Engineering	• Aerospace◆ • Architectural Conservation and Sustainability◆ • Biomedical and Electrical◆ • Biomedical and Mechanical◆ • Civil◆ • Communications◆	• Computer Systems◆ • Electrical◆ • Engineering Physics◆ • Environmental◆ • Mechanical◆ • Software◆ • Sustainable and Renewable Energy◆	• Advanced Functions (MHF4U) • Chemistry (SCH4U) • Physics (SPH4U) • One credit from Calculus (MCV4U), Biology (SBI4U), or Earth and Space Science (SES4U) (Calculus [MCV4U] recommended)	75-85%	86%

Legend
- ◆ Co-operative education available
- ✶ Early deadlines, see page 70

For admission to undergraduate programs, Ontario students must have the Ontario Secondary School Diploma (OSSD) with six 4U/M courses. 4U English is recommended. 4U/M credits for co-op courses will not be considered as part of the six courses. Higher averages are required for admission to programs for which the demand for places by qualified applicants exceeds the number of places available. The overall average required for admission is determined each year on a program by program basis. All programs

Degree program	Areas of study	Required prerequisite courses	Minimum cut-off range	2019 incoming class average
Bachelor of Global and International Studies	• Africa and Globalization • Europe and Russia in the World • French and Francophone Studies • Global Development • Global Genders and Sexualities • Global Inequalities and Social Change • Global Law and Social Justice • Global Literatures • Global Media and Communication • Global Migration and Transnationalism • Global Politics • Global Religions: Identity and Community • Global and Transnational History • Globalization, Culture and Power • Globalization and the Environment • International Economic Policy • Latin American and Caribbean Studies • Teaching English in Global Contexts	All BGInS: • English (ENG4U) BGInS concentration in French and Francophone Studies: • English (ENG4U) • One French credit (4U)	75-77%	85%
Bachelor of Health Sciences	• Biomedical Sciences • Disability and Chronic Illness • Environment and Health • Global Health • Health Throughout the Lifespan	• Advanced Functions (MHF4U) • Two credits from Biology (SBI4U), Chemistry (SCH4U), Earth and Space Science (SES4U) or Physics (SPH4U) (Calculus [MCV4U] strongly recommended)	85-88%	89%
Bachelor of Humanities✶	Option A: Bachelor of Humanities (Honours or Combined Honours)	No specific prerequisites	80-84%	87%
	Option B: Bachelor of Humanities and Biology (Combined Honours)	• Biology (SBI4U) or Chemistry (SCH4U)		
Bachelor of Industrial Design✶◆		• Advanced Functions (MHF4U) • Physics [SPH4U] (Calculus [MCV4U] and courses in visual arts and/or technological design are recommended)	75-77%	87%
Bachelor of Information Technology✶	• Information Resource Management (IRM) ◆	• English (ENG4U) • One Math credit (4U)	75-77%	81%
	• Interactive Multimedia and Design (IMD)◆	• Advanced Functions (MHF4U)		
	• Network Technology (NET)◆	• One Math credit (4U)		
	• Optical Systems and Sensors (OSS)◆	• Advanced Functions (MHF4U)		
Bachelor of International Business	• Global Financial Management and Systems • International Marketing and Trade • International Strategy and Human Resources Management	• English (ENG4U) • Advanced Functions (MHF4U) • Calculus and Vectors (MCV4U)* *Students without Calculus and Vectors may be admitted conditionally and must successfully complete MATH 0009 in their first term of study.	80%	87%
Bachelor of Journalism✶	• Health Sciences	• English (ENG4U) Concentration in Health Sciences: • English (ENG4U) • One Math credit (4U) • Biology (SBI4U) or Chemistry (SCH4U)	85-88%	90%

have limited enrolment. Admission is not guaranteed and all requirements are subject to change. The admission average required for entry to the co-op option of the programs listed below may be higher than the cut-off range listed for the program itself. **admissions.carleton.ca/requirements**

Degree program	Areas of study	Required prerequisite courses	Minimum cut-off range	2019 incoming class average
Bachelor of Journalism and Humanities*		• English (ENG4U)	85-88%	89%
Bachelor of Mathematics	• Computational and Applied Mathematics and Statistics◆ • Computer Mathematics • Computer Science and Mathematics◆ • Mathematics◆ • Mathematics and Economics◆ • Mathematics and Physics◆ • Mathematics/ Master of Science • Statistics◆ • Statistics and Economics◆ • Statistics/Master of Science	• Advanced Functions (MHF4U) • Calculus (MCV4U)	78-82%	86%
Bachelor of Media Production and Design◆		• English (ENG4U) • One Math credit (4U)	75-77%	86%
Bachelor of Music*		• No specific prerequisites (English [ENG4U] recommended)	75-77%	86%
Bachelor of Public Affairs and Policy Management	• Communication and Policy Studies◆ • Development Policy Studies◆ • International Policy Studies◆ • Public Policy and Administration◆	• No specific prerequisites	83-86%	89%
Bachelor of Science	• Biochemistry◆ • Bioinformatics◆ • Biology◆ • Biology and Physics◆ • Biotechnology◆ • Chemistry◆ • Chemistry and Physics◆ • Computational Biochemistry◆ • Food Science◆ • Interdisciplinary Science and Practice◆ • Linguistics • Nanoscience • Neuroscience and Biology◆ • Neuroscience and Mental Health◆ • Psychology	• Advanced Functions (MHF4U) • Two credits from Biology (SBI4U), Chemistry (SCH4U), Earth and Space Science (SES4U) or Physics (SPH4U) (Calculus [MCV4U] strongly recommended)	78-82%	86%
	• Earth Sciences◆ • Environmental Science◆ • Geomatics◆ • Physical Geography◆	• Advanced Functions (MHF4U) or Calculus (MCV4U) • Two credits from Biology (SBI4U), Chemistry (SCH4U), Earth and Space Science (SES4U) or Physics (SPH4U)	78-82%	86%
	• Physics◆ • Applied Physics◆ • Mathematics and Physics◆	• Advanced Functions (MHF4U) and Calculus (MCV4U) • One credit from Biology (SBI4U), Chemistry (SCH4U), Earth and Space Science (SES4U) or Physics (SPH4U)	78-82%	86%
Bachelor of Social Work*		• No specific prerequisites (English strongly recommended)	75-80%	88%

Program index

Provincial requirements

Please see the Ontario admission requirements on pages 72-74 for admission requirements by degree and averages required. Use this chart to see which courses in your province fulfill those prerequisite requirements.

Province	Ontario	Alberta, NWT, Nunavut	British Columbia, Yukon	Manitoba	New Brunswick	Newfoundland & Labrador	Nova Scotia	Prince Edward Island	Quebec CEGEP	Saskatchewan
General Requirements	The Ontario Secondary School Diploma (OSSD) with a minimum of six 4U/M courses	High school diploma including five courses numbered 30 or 31	High school diploma including four Grade 12 academic courses	High school diploma including five courses at the 40 level	High school diploma including five academic courses at the Grade 12 level	High school diploma including 10 credits at the 3000 level	High school diploma including five courses numbered 12 academic or advanced	High school diploma including five academic courses at the 611 or 621 level	One year of CEGEP with a minimum of 12 academic courses	High school diploma including six courses numbered 30
Prerequisite Equivalencies	Advanced Functions (MHF4U)	Math 30-1	Pre-Calculus 12	Pre-Calculus Math 40S	Pre-Calculus A 120 and B 120	Math 3200	Pre-Calculus 12	Math 621B	Mathematics (201) Calculus 1	Pre-Calculus 30
	Biology (SBI4U)	Biology 30	Anatomy and Physiology 12	Biology 40S	Biology 121/122	Biology 3201	Biology 12	Biology 621A	Biology (101) General Biology	Biology 30
	Calculus (MCV4U)	Math 31	Calculus 12	Calculus 45S	Calculus 120	Calculus 3208	Calculus 12	Math 611B	Mathematics (201) Calculus 2	Calculus 30
	Chemistry (SCH4U)	Chemistry 30	Chemistry 12	Chemistry 40S	Chemistry 121/122	Chemistry 3202	Chemistry 12	Chemistry 621A	Chemistry (202) General Chemistry or Chemistry of Solutions	Chemistry 30
	English (ENG4U)	ELA 30-1	English 12 or English First Peoples 12	ELA 40S	English 122	English 3201	English 12	English 621A	English (603)	ELA A30 and B30
	Mathematics of Data Management (MDM4U)	Math 30-2	Foundations of Math 12	Applied Math 40S	Foundations of Math 120	Math 3201	Math 12	Math 621A	Mathematics (201) Linear Algebra	Foundations of Math 30
	Physics (SPH4U)	Physics 30	Physics 12	Physics 40S	Physics 121/122	Physics 3204	Physics 12	Physics 621A	Physics (203) Mechanics or Electricity and Magnetism	Physics 30
Notes	For a list of acceptable courses by province: **admissions.carleton.ca/requirements.**									

Future opportunities

Carleton University offers a variety of certificate and diploma programs. Students enrolled in these programs are able to benefit from the same university resources and support services as our regular, full-time degree students.

For information regarding admission requirements, visit **admissions.carleton.ca/certificates**.

Certificates and Diploma Programs available at Carleton University:

- **Certificate in Carillon Studies**
- **Certificate in Nunavut Public Service Studies**
- **Certificate in Professional Writing**
- **Certificate in the Teaching of English as a Second Language**
- **Post-Baccalaureate Diploma in Accounting**
- **Post-Baccalaureate Diploma in Art History**
- **Post-Baccalaureate Diploma in Cognitive Science**
- **Post-Baccalaureate Diploma in Economics**
- **Post-Baccalaureate Diploma in Film Studies**
- **Post-Baccalaureate Diploma in History and Theory of Architecture**
- **Post-Baccalaureate Diploma in Professional Writing**

Graduate programs

Thinking of grad school? Think Carleton! With a graduate degree from Carleton, you'll be able to shape your future based on your specific study and research interests. We offer a wide variety of unique graduate programs with many specializations.

Learn more at **graduate.carleton.ca/programs**.

- **Master of Accounting (MAcc)**
- **Master of Applied Business Analytics in Technology Innovation Management (MABA)**
- **Master of Applied Science (MASc)**
  - Aerospace Engineering*
  - Biomedical Engineering*
  - Civil Engineering*
  - Electrical and Computer Engineering*
  - Environmental Engineering*
  - Human-Computer Interaction
  - Mechanical Engineering*
  - Sustainable Energy Engineering and Policy
  - Technology Innovation Management
- **Master of Architecture (MArch)**
- **Master of Architectural Studies (MAS)**
- **Master of Arts (MA)**
  - Anthropology
  - Applied Linguistics and Discourse Studies
  - Art History
  - Canadian Studies
  - Communication
  - Economics
  - English
  - European, Russian and Eurasian Studies†
  - Film Studies
  - Geography
  - History
  - Human-Computer Interaction
  - International Affairs†
  - International Affairs/Juris Doctor**
  - Legal Studies
  - Linguistics
  - Migration and Diaspora Studies
  - Music and Culture
  - Northern Studies
  - Philosophy
  - Political Economy
  - Political Science†
  - Psychology
  - Public History
  - Religion and Public Life
  - Sociology†
  - Sustainable Energy†
  - Women's and Gender Studies
- **Master of Business Administration (MBA)**
- **Master of Business Administration (MBA) in Shanghai**
- **Master of Cognitive Science (M.Cog.Sc.)**
- **Master of Computer Science (MCS)†***
  - Computer Science
  - Human-Computer Interaction
- **Master of Design (MDes)**
- **Master of Entrepreneurship in Technology Innovation Management (MEnt)**
- **Master of Engineering (MEng)**
  - Aerospace Engineering*
  - Biomedical Engineering*
  - Civil Engineering*
  - Electrical and Computer Engineering*
  - Environmental Engineering*
  - Infrastructure Protection and International Security
  - Mechanical Engineering*
  - Sustainable Energy Engineering and Policy
  - Technology Innovation Management
- **Master of Information Technology**
  - Network Technology
  - Digital Media
- **Master of Infrastructure Protection and International Security (MIPIS)†**
- **Master of Journalism (MJ)**
- **Master of Philanthropy and Nonprofit Leadership (MPNL)**
- **Master of Political Management (MPM)**
- **Master of Public Policy and Administration (MPPA)†**
- **Master of Science (MSc)**
  - Biology*
  - Chemistry*
  - Earth Sciences*
  - Geography (Physical Geography)
  - Health Sciences
  - Health: Science, Technology and Policy
  - Management
  - Mathematics and Statistics*
  - Neuroscience
  - Northern Studies
  - Physics*
- **Master of Social Work (MSW)**
- **Doctor of Philosophy (PhD)**
  - Aerospace Engineering*
  - Anthropology
  - Applied Linguistics and Discourse Studies
  - Architecture
  - Biology*
  - Biomedical Engineering*
  - Canadian Studies***
  - Chemistry*
  - Civil Engineering*
  - Cognitive Science
  - Communication
  - Computer Science*
  - Cultural Mediations
  - Earth Sciences*
  - Economics*
  - Electrical and Computer Engineering*
  - English
  - Environmental Engineering*
  - Ethics and Public Affairs
  - Geography
  - Health Sciences
  - History
  - Information Technology
  - International Affairs
  - Legal Studies
  - Linguistics, Language Documentation and Revitalization
  - Management
  - Mathematics and Statistics*
  - Mechanical Engineering*
  - Neuroscience
  - Physics*
  - Political Science
  - Psychology
  - Public Policy
  - Social Work
  - Sociology
- **COLLABORATIVE SPECIALIZATIONS**
  - African Studies (Master's)
  - Biochemistry (Master's, PhD)
  - Bioinformatics (Master's)
  - Biostatistics (Master's)
  - Chemical and Environmental Toxicology (Master's, PhD)
  - Data Science (Master's)
  - Digital Humanities (Master's)
  - Latin American and Caribbean Studies (Master's)
  - Political Economy (PhD)
- **GRADUATE DIPLOMAS**
  - Architectural Conservation
  - Curatorial Studies
  - Economic Policy
  - Ethics and Public Affairs
  - European Integration Studies
  - Health: Science, Technology and Policy
  - Indigenous Policy and Administration
  - Infrastructure Protection and International Security (IPIS)
  - Linguistics
  - Migration and Diaspora Studies
  - Northern Studies
  - Philanthropy and Nonprofit Leadership
  - Public Policy and Program Evaluation (online)
  - Work and Labour

† Co-operative education available
* Joint program between Carleton University and the University of Ottawa
** Program requires application and registration at both Carleton University and the University of Ottawa
*** Joint program between Carleton University and Trent University

Discover campus

carleton.ca/tours | admissions.carleton.ca/events

Join us for a tour

One of the best ways to get to know Carleton is to take a tour. Our new virtual tour will guide you through:

- a first-year seminar classroom and a lecture theatre;
- the university library;
- our underground tunnel system;
- our athletics facilities; and
- some of our many student service offices.

virtualtour.carleton.ca/carleton

We hope to host you on campus for a tour of our beautiful riverside campus when possible. Typically campus tours are offered year round, Monday through Saturday. Campus tours are walking tours that usually take about 1.5 hours and are led by current Carleton students. Please visit our website to stay up-to-date on when tours will be offered, and contact us if you would like to connect with a faculty member or current Carleton student.

Attend an online or on-campus event

There are so many ways to connect with Carleton University! This year, we are offering a number of online events and webinars to connect you to Carleton and answer your questions. Please also continue to visit our website to find out about on-campus events we may be hosting.

Your home away from home

Ottawa is a wonderful place to study, offering you opportunities you won't find anywhere else. Studying in a G7 capital city gives Carleton students unparalleled advantages, such as exceptional co-op and research opportunities that will enrich your university experience.

Carleton's self-contained campus is bordered by the Rideau Canal, the Rideau River and the surrounding community. It is located a short ride from Parliament Hill and Ottawa's downtown core. This complementary blend of city life and nature, culture and heritage, business and government makes Carleton such a unique place to study and learn.

Travel to Ottawa

As the capital of Canada, Ottawa is well connected locally, nationally and internationally. Ottawa is home to an international airport, a train station and a coach bus station, and is serviced by local public transit. Ottawa is a 2 hour drive from Montreal, 4 1/2 hour drive from Toronto and a 1 hour drive to the state of New York.

Come and visit Carleton!

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