

Land-Based Certificate in STEM *Foundations*



Acquiring scientific knowledge through an experiential approach

Prepare to make a difference in the world. Give yourself the solid entry-level foundation you need to apply to a university degree program in a STEM field, and start on the path toward the future of your dreams.



McGill

School of
Continuing Studies

École
d'éducation permanente



Learn more at
mcgill.ca/SCS-STEM

Careers in STEM Fields



- Accountant
- Actuary
- Astronomer
- Biochemist
- Biomedical Engineer
- Cartographer
- Clinical Informaticist
- Computer and Information Scientist
- Dentist
- Environmentalist
- Economist
- Epidemiologist/Medical Scientist
- Forestry Technician
- Game Developer
- Information Security Analyst
- IT Manager
- Microbiologist
- Midwife
- Mining Engineer
- Nuclear Engineer
- Nurse Practitioner
- Physician
- Psychologist
- Software Developer
- Statistician
- Systems Analyst
- Technical Writer
- Web Developer



Land-Based Certificate in STEM Foundations



Credit



Credits



Full-Time



Part-Time



Daytime
Classes



Semesters to
Complete



In-Community
and

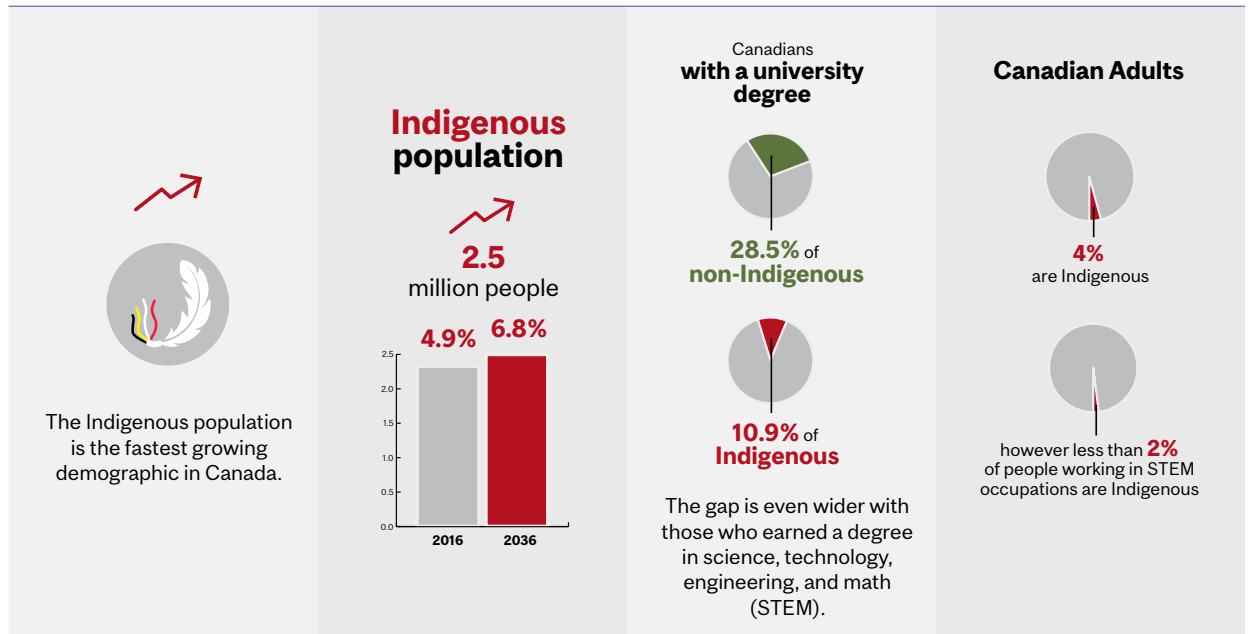


On-Land
and



In Montreal
On-Campus

Did you know?



What is STEM?

STEM stands for Science, Technology, Engineering, and Mathematics. The skills and knowledge gained through STEM education are no longer optional but critical for future jobs.

How can a career in STEM benefit my community?

People working in STEM occupations – engineers, doctors, dentists, nurses, and scientists, etc. – have political, social, and economic influence. They can play strong leadership and decision-making roles in Indigenous communities, workplaces, and governments.

The Land-Based Certificate in STEM Foundations could be your first step towards the career of your dreams, if:

- You want to be involved in shaping your Nation's future.
- You dream of creating an invention or discovering a cure that will change the world.
- You wish to improve your knowledge and competence in science, technology, engineering, and mathematics.
- You need to acquire entry-level prerequisites to apply to a university degree program.
- You would like to learn within the context of Indigenous methods, experiences, and wisdom.
- You want to play a role in food security in your community.
- You want to protect the land from the effects of climate change.
- You are interested in one of the many careers listed on the previous page, but are not sure how to get there.

Courses and Schedule



FALL 2023 In-Community

Tentative Dates	Course
Sept. 11 – Sept. 16, 2023 (1 week)	Course 1: CEEN 402 English Communication and Cultural Patterns
Sept. 17 – Oct. 9, 2023	Cultural Break
Oct. 10 – Oct. 28, 2023 (3 weeks)	Course 2: CMSC 000 Foundations in Mathematics
Nov. 3 – Nov. 12, 2023	Cultural Break
Nov. 13 – Dec. 2, 2023 (3 weeks)	Course 3: CMSC 003 Foundations in Logarithms, Trigonometry and Introduction to Calculus



WINTER 2024 In-Community

Tentative Dates	Course
Jan 22 – Feb. 10, 2024 (3 weeks)	Course 4: CSCI 030 Fundamentals of Physics - Mechanics
Feb.16 – March 5, 2024	Cultural Break
March 4 – March 9, 2024 (1 week)	Course 5: CEEN 403 Strategic Communication in English
March 11 – March 26, 2024	Cultural Break
March 25 – April 13, 2024 (3 weeks)	Course 6: CSCI 010 Foundations in General Biology 1

* Please note that there is no guaranteed admission to a McGill or other university degree program upon completion of courses in Land-Based STEM Foundations.

** The order and schedule of the courses may change.





SUMMER 2024
In Montreal On-Campus and On-Land

Tentative Dates	Course
June 3 - June 22, 2024 (3 weeks)	Course 7: CSCI 020 Foundations in General Chemistry 1
June 29 - July 2, 2024	Extracurricular Activities
July 2 - July 20, 2024 (3 weeks)	Course 8: CSCI 021 Foundations in General Chemistry 2



FALL 2024
In-Community

Tentative Dates	Course		
Sept. 9 - Sept. 28, 2024 (3 weeks)	Course 9: CSCI 031 Fundamentals of Physics - Waves and Optics		
October 4 - October 29, 2024	Cultural Break		
Oct. 28 - Nov. 16, 2024 (3 weeks)	Course 10:		
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding: 5px;"> CMSC 004 Foundations: Statistics, Probability and Introduction to Linear Algebra (For Engineering programs) </td> <td style="width: 10%; text-align: center; vertical-align: middle; padding: 5px;">OR</td> <td style="width: 40%; padding: 5px;"> CSCI 011 Foundations in General Biology 2 (For Health and Science programs) </td> </tr> </table>	CMSC 004 Foundations: Statistics, Probability and Introduction to Linear Algebra (For Engineering programs)	OR
CMSC 004 Foundations: Statistics, Probability and Introduction to Linear Algebra (For Engineering programs)	OR	CSCI 011 Foundations in General Biology 2 (For Health and Science programs)	
May 2025	Graduation and Scarf Ceremony		



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Land-Based Certificate in STEM *Foundations*

Teaching Methodology

The Land-Based Certificate in STEM Foundations takes a holistic approach to learning, teaching and assessing, with you -the learner- at its center, interconnected with community, curriculum and academic support systems.

Land-Based	Experiential	Inquiry-Based
<ul style="list-style-type: none"> The Indigenous knowledge of the land, language and cultural knowledge are braided together with scientific knowledge. The land is your classroom, and science and math are all around you. Content is tailored and reflective of the realities of the Canadian context. Courses are delivered in-community and informed by Indigenous curriculum design experts. 	<ul style="list-style-type: none"> You will acquire problem-solving and decision-making skills through hands-on, indoor and outdoor science and math activities. You will be part of authentic, participatory, and experiential learning which will connect science and math with the land, workplace, people, and real-life situations. 	<ul style="list-style-type: none"> You will develop critical thinking through learning activities designed to create engagement, collaboration, social interaction, and dialogue. Reflective time is integrated in the teaching to connect personal experience with the theoretical concepts. You will acquire research skills so that you can explore on your own questions, problems, and/or scenarios that are of interest to you.

Student support available to you:

- Laptops are available
- In-Residence Elders
- Student Support and Liaison Coordinator
- Academic Advisors
- Career and Transition Advisors
- Tutors
- Bursaries and scholarships
- Tuition financial aid
- One-on-one coaching
- Pre-course technological preparation
- Workshops to help you develop soft skills (e.g., note-taking, time management, exam preparation, anxiety management)
- Technical support
- On-campus and remote access to McGill University library and resources

Admission Requirements

You need to be at least 17 years old and in one of the following categories:

- Quebec high school graduate (Grade 12 graduate for those outside Quebec)
- CEGEP graduate in non-STEM disciplines (e.g., DEC in Social Sciences)
- CEGEP graduate or grade 12 graduate wishing to take refresher courses or improve your grades before applying to university

OR

- Mature student (21+ years old) without high school diploma or College DEC

Program Information, Funding, and Registration

For more information on program and funding opportunities, as well as registration, please contact us directly at stem.scs@mcgill.ca



McGill University is on land which has long served as a site of meeting and exchange amongst Indigenous peoples, including the Haudenosaunee and Anishinabeg nations. We acknowledge and thank the diverse Indigenous peoples whose presence marks this territory on which peoples of the world now gather.

