Integrated Water Management

MACPHAIL SCHOOL OF ENERGY

Overview

Dive into a career that shapes the future of water conservation with our Integrated Water Management diploma program.

Designed for those aspiring to work in roles like water management specialist, watershed planner or hydrologist, this program provides a comprehensive education in water ecosystem preservation, hazard management and supporting economic activities through water stewardship.

You'll develop a deep understanding of practical and theoretical water management through coursework and a hands-on capstone project in collaboration with industry professionals.

You will also have an opportunity to participate in an optional four-month paid or unpaid work placement program, giving you real-world experience, a taste of your future career and networking opportunities.

You can specialize in water environmental technologies or advanced industry applications and enhance your expertise with field schools and virtual reality simulations.

In this program, you will:

- learn to craft water monitoring initiatives and conduct field measurements using advanced technology
- manage water data to inform strategic decision-making and environmental designs
- utilize tools such as GIS and HEC-RAS for analysis and planning
- engage stakeholders and resolve conflicts in water-related projects
- design adaptive strategies for water management that consider social, cultural and environmental impacts, including Indigenous perspectives on water resources and stewardship
- prepare for and manage water-related emergencies in the context of climate change.

The program adopts an integrated approach, promoting cross-sectoral and participatory water management - endorsed by the United Nations - and prepares you to address water challenges locally and globally.

As Canada's first diploma program of this kind, you'll graduate with versatile skills applicable across various industries, ready to take on critical water resource management roles worldwide.

Traits, skills and aptitudes

Those working in water management tend to be innovative, objective and directive.

You need:

- imagination and creativity
- analytical ability and critical thinking skills
- problem-solving skills
- oral communication skills
- an ability to write clear and informative engineering reports
- an ability to work alone and as a team.

You should enjoy preparing, reviewing and analyzing data, developing innovative approaches to problems, using instruments and equipment to perform tasks precisely, consulting with people and working outdoors.

Practicum, Co-op and Work Integrated Learning

This program has a mandatory capstone course and an optional co-op work placement.

For the capstone course, which takes place in your final semester, you'll work on a four-month water-related project with an industry partner.

For the co-op work term, which you can participate in after your second semester, you'll have the option to participate in a four-, eight-, or 12-month work placement. During this placement, you'll perform the regular duties of a water professional in a workplace environment such as consulting, industry, government, university or non-profit. This work term is not required to graduate from the program.

Please note: International students are not eligible to register in or participate in optional work-integrated learning opportunities, as optional placements do not meet current IRCC requirements for student work placements.

Accreditations, designations and certifications

This program has been accredited by the Environmental Careers Organization of Canada (ECO Canada) based on conformance with the national accreditation standard for post-secondary environmental programs.

This accreditation has been granted through the Canadian Environmental Accreditation Commission (CEAC), an independent body that oversees ECO Canada's post-secondary accreditation program.

Graduates are also eligible for membership in the following professional associations:

- Association of Science and Engineering Technology Professionals of Alberta (ASET) (by passing the certification exam)
- ECO Canada as an Environmental Professional in Training
- Chemical Institute of Canada (CIC)

Credentials

After successfully completing this program, you'll receive a SAIT Integrated Water Management diploma.

Admission requirements

Applicants educated in Canada

Applicants must demonstrate English language proficiency and completion of the following courses or equivalents:

- at least 60% in English Language Arts 30-1 or English Language Arts 30-2, and
- at least 60% in Math 30-1, and
- at least 50% in Chemistry 20, Physics 20, or Biology 20.

Applicants holding relevant science (mathematics, physics, chemistry, geology, or geophysics) or engineering degrees or courses from an accredited post-secondary will also be considered with approval from the Academic Chair. Other related combinations of education and experience will be considered.

SAIT accepts high school course equivalents for admission for applicants educated outside Alberta.

Applicants educated outside of Canada

All applicants who were educated outside of Canada must demonstrate English language proficiency and provide proof they meet the program admission requirements with an international document assessment. Find accepted educational documents and assessment options.

SAIT may also accept courses completed at certain international post-secondary institutions.

Costs

2026/27 tuition and fees

The following estimated costs are effective as of July 1, 2026.

The estimated total cost of tuition and fees is based on the suggested schedule of study. Following a modified schedule will impact the fees you pay per semester and may alter final costs.

Domestic Students

Year	Number of semesters	Tuition fees	Additional fees	Total per year
1	2	$9,510	$1,764.50	$11,274.50
2	2	$9,510	$1,764.50	$11,274.50
			Total cost:	**$22,549**

The estimated total cost of tuition and fees for domestic students is based on the recommended course load per year.

International Students

The program total is based on the estimated amount you will pay if you enter this program during the 2026/27 academic year. The program total amount listed on your letter of admission may appear higher. This amount is your maximum tuition guarantee for the program. SAIT will not exceed this maximum, regardless of changes in tuition and fees between academic years.

Year	Number of semesters	Tuition fees	Additional fees	Total per year
1	2	$28,650	$1,764.50	$30,414.50
2	2	$28,650	$1,764.50	$30,414.50
			Total cost:	**$60,829**

The estimated total cost of tuition and fees for international students is based on the recommended course load per year.

Books and Supplies

This program primarily uses open-source books, and most required supplies are provided. Thus, books and supplies are approximately $200 per year.

This is a bring-your-own-device program with a standard computer hardware and software requirement. See the specific requirements on our computers and laptops page.

Required personal protective equipment (PPE)

The industry-approved PPE you'll need will be discussed during your first few days of classes.

PPE is required in various labs. You'll need a lab coat and CSA-approved safety glasses (with UVEX and side shields) to enter the chemistry labs.