



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.

Academic path

The opportunity to advance your education by transferring into this program or gain credit for previous postsecondary courses may be available.

There may also be opportunities to further your education once you graduate.

Learn more about [program and institution transfer options](#).

Professional 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) Graduates are eligible for membership in the following professional associations:

- Association of Science and Engineering Technology Professionals of Alberta (ASET) after passing the certification exam
- ECO Canada as an environmental professional in-training.

Credentials

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

Practicum, Co-op and Work Integrated Learning

You'll have the option to participate in a four-month work term after your second semester.

During this work term, you'll perform the regular duties of a water professional in a workplace environment such as industrial, service, government, university or non-profit. The work term is not required to graduate from the program.

Admission requirements

Applicants educated in Canada

All applicants must demonstrate [English language proficiency](#) and meet the following requirements or equivalents.

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

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 out what educational documents are accepted and assessment options](#).

SAIT may also accept courses completed at certain [international post-secondary institutions](#).

Costs

2024/25 tuition and fees

The following costs are effective as of July 1, 2024.

Domestic Students

| Year Year | Number of semesters Number of semesters | Tuition fees Tuition fees | Additional fees Additional fees | Total per year Total per year |
|--------------------|--|------------------------------|------------------------------------|----------------------------------|
| 1 | 2 | \$9,510 | \$1,608 | \$11,118 |
| 2 | 2 | \$9,510 | \$1,608 | \$11,118 |
| Total cost: | | | | \$22,236 |

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

International Students

| Year | Number of semesters | Tuition fees | Additional fees | Total per year |
|--------------------|---------------------|--------------|-----------------|-----------------|
| 1 | 2 | \$27,690 | \$1,608 | \$29,298 |
| 2 | 2 | \$27,690 | \$1,608 | \$29,298 |
| Total cost: | | | | \$58,596 |

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.