



Instrumentation Engineering Technology

Train to be an instrumentation technologist, studying control system design and computer-based processes for work in a wide range of industries, including oil and gas refining and petrochemical processing.

Instrumentation Engineering Technology provides students with sound theoretical and practical training in the operation and maintenance of automated process control and measurement systems used in the production of various commodities.

Instrumentation technologists use electronic test equipment to install, troubleshoot, calibrate, maintain and repair electrical/electronic measurement and control instruments. Students will learn about pneumatic devices, control valves, electronic instruments, digital logic devices, computer-based process controls and control system design.

Students also become well versed in personal computer applications in instrumentation, process control systems design, Fieldbus™ SCADA, PLC, distributed control system design and interfacing of industrial microcomputer control systems with real processes. Modern laboratory facilities include pilot-scale versions of processes found in various industries and a fully equipped control room.

The Instrumentation Engineering Technology program is currently only offered full-time. Each academic year consists of two 15-week semesters and students generally take two years to complete the program.

Is this the right fit for me?

The Instrumentation Engineering Technology program (IJET) requires an interest and aptitude for math, science and computers. The foundation that you have developed in these areas through previous education and experience will be further enhanced through courses that include lecture and laboratory components.

Contact time with instructors in lectures and labs is thirty hours per week. The average student is expected to spend about an additional twenty five hours per week on assignments, studying and projects.

A career in Instrumentation Engineering Technology typically includes both office and fieldwork. Depending on someone's particular career path, the proportion of office and field exposure can vary significantly.

In the IJET program, students are exposed to lab work that simulates field activities. This includes using machinery and hand tools to assemble, calibrate and troubleshoot industrial instrumentation components, following safety requirements including the use of personal protective equipment like safety glasses and footwear.

Some of the subject areas that are a focus of the program include:

- Industrial process analysis
- Process instruments
- Analytical instruments
- Control and safety systems

In the industry, instrumentation practitioners will often work in teams of various sizes. In the IJET program, many courses require working in teams for projects or lab assignments.

We invite you to reflect on the following questions:

- Do I enjoy working in a team environment?
- Am I a good communicator? (I have strong English language skills and can write clearly and concisely.)

- Am I a self-starter who likes to think critically through problems and challenges?
- Am I adaptable?

The IJET program is designed to provide teaching, or the delivery of information to students, at the beginning of the program, but evolves to more of a coaching role, where students learn more independently. This requires students to take more initiative and responsibility for their learning, with instructors available as a resource, as they progress through the program.

Students will have to secure their own job after graduation. Assistance is available on resumé writing and interviewing for a position. Networking opportunities with industry are available through the program. Students are encouraged to be active in their student club, to develop the soft skills that are important to a successful career and to access additional opportunities to network with industry.

Accreditation

Technology Accreditation Canada (TAC) nationally accredits the Instrumentation Engineering Technology program at the Engineering Technologist level.

Students are eligible for membership in the Association of Science and Engineering Technology Professionals in Alberta (ASET) and the International Society of Automation (ISA).

Credentials

After successfully completing this program, graduates will receive a SAIT diploma in Instrumentation Engineering Technology.

Admission and selection

Application dates

Applications are accepted until the program start date but are subject to change.

- **Fall 2022 start:** applications are open Oct. 6, 2021.

Program requirements

Completion of the following courses or their equivalents:

- At least 60% in Math 30-1 or Pure Math 30, or 75% in Math 30-2
- At least 60% in English Language Arts 30-1 or 75% in English Language Arts 30-2
- At least 60% in Physics 20
- At least 60% in Chemistry 20

All applicants must demonstrate [English Language Proficiency](#) prior to admission, including students educated in Canada.

SAIT accepts [high school course equivalents](#) for admission. If you don't meet the requirements, consider [Academic Upgrading](#).

SAIT evaluates international documents for admissions. After you've applied, consider our [international document assessment](#) service if your education is from outside of Canada.

Direct entry: four-step process

Step 1: Read the program information to see the qualities needed for student success.

Step 2: Ensure that you meet all of the admission requirements listed above.

Step 3: [Apply](#) to Instrumentation Engineering Technology and [submit your transcripts and/or anticipated final grades](#).

- Admission will be extended on a first-qualified, first-offered basis until the program is full.

Step 4: Find out how to monitor your application status [after you apply](#).

- Failure to meet anticipated final grades will result in offers being rescinded.

Reserved seats

Four seats are reserved for applicants who have completed and obtained a minimum of 70% in each of the following Career and Technology Studies courses:

1. PRS1010 - Overview of Alberta Geology
2. PRS1020 - Non-renewable Resources
3. PRS1060 - Consumer Products and Services
4. PRS2030 - Non-Conventional Hydrocarbon Exploration
5. PRS2060 - Refining Hydrocarbons

Communication during admission

Email is the primary source of communication during the selection process. Ensure your personal email account is managed appropriately to receive our emails, files and communications. We recommend you add the macphail.students@sait.ca domain to your safe senders' list or you risk missing critical email messages.

Costs 2022/23

Domestic tuition and fees

Cost per credit: \$178

Year	Number of semesters	Tuition fees	SAIT fees	Saitsa fees*	Total
1	2	\$5,340	\$916	\$553	\$6,809
2	2	\$5,340	\$916	\$553	\$6,809

International tuition and fees

Cost per credit:

\$603.83

Year	Number of semesters	Tuition fees	SAIT fees	Saitsa fees*	Total
1	2	\$18,114.90	\$916	\$553	\$19,583.90
2	2	\$18,114.90	\$916	\$553	\$19,583.90

*Maximum fee. Actual fees may be less and are based on the number of credits a student takes per semester and whether they opt-out of health and dental benefits.

SAIT fees

- Campus athletic and recreation fee: \$196
- Universal transit pass (Upass): \$320
- Student support fee: \$200
- Student technology fee: \$200

Saitsa fees

Student Association fee

- Maximum: \$291

This is the maximum amount the student will pay. Actual fees may be less and are based on the number of credits the students take per semester.

Health and dental fees

- Health plan: \$127
- Dental plan: \$135

Students with existing health and/or dental plans can opt-out. Please refer to [Saitsa's website](#) for information.

For more information on health and dental benefits for international students, please contact the [International Centre](#).

Books and supplies*

For an estimate of the costs associated with purchasing a computer that meets the program's hardware and software requirements, see our [computers and laptops page](#).

Learn more about [tuition and financial aid](#).

*Tuition, fees, books and supply costs are subject to change.