Machining Technology

SCHOOL OF MANUFACTURING & AUTOMATION

Overview

Begin a career in machining, a trade that blends precision, craftsmanship and technical expertise.

Our Machining Technology diploma program offers an extensive, hands-on learning experience, equipping you with the skills to operate precision and Computer Numerical Control (CNC) machinery. These skills are crucial for producing intricate components used across various industries.

You'll build a tech-driven toolkit, gaining proficiency in programming and operating advanced equipment such as CNC mills, lathes, and coordinate measuring machines (CMM).

Additionally, you'll learn to work with conventional mills, drills, lathes and grinders for metal cutting and shaping operations.

In this program, you will:

- learn a broad range of machining technologies and techniques
- learn to set up and operate both manual and CNC machines
- master the art of interpreting blueprints
- be introduced to computer-aided design (CAD) and use computer-aided manufacturing (CAM) software to develop tool paths
- learn how to plan manufacturing processes and validate design accuracy
- gain knowledge in precise measurement techniques and the properties of different metals
- learn the fundamentals of effective communication within a machine shop environment.

This program provides a thorough grounding in foundational and advanced machining technology for those aspiring to become skilled machinists.

Prepare to join an industry where precision, skill and technological expertise come together to create the components that keep our world running.

Traits, skills and aptitudes

Those in machining tend to be objective, innovative and methodical.

You need:

- mechanical aptitude
- critical thinking and problem-solving skills
- the ability to use your hands skillfully and quickly
- the ability to estimate and measure sizes and distances accurately
- the ability to work alone on tasks that require concentration and physical effort.

You should enjoy doing creative work with machinery that requires a high degree of skill and precision.

Academic path

This program aligns with the Alberta Apprenticeship and Industry Training (AIT) curriculum for all four technical training periods for Machinists.

After successfully completing each of the first three semesters, you'll be eligible to challenge the exams for periods one through three. At the end of 60 weeks, you'll be eligible to challenge the period four exam.

Upon passing the exams, you can register as an apprentice and complete the on-the-job training hours to earn your journeyperson designation.

Credentials

Upon successful completion of this program, you'll receive a SAIT Machining Technology diploma.

Practicum, Co-op and Work Integrated Learning

You can complete an optional cooperative work term between your first and second year.

This opportunity allows you to apply your classroom learning in the workplace and gain valuable industry experience while networking with a potential employer.

Admission requirements

Applicants educated in Canada

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

- at least 50% in Math 20-1, Math 20-2 or Math 20-3, and
- at least 50% in English Language Arts 20-1 or English Language Arts 20-2, and
- at least 50% in Science 10.

Applicants who have previously completed the SAIT Machinist Technician certificate program or equivalent may also be accepted in place of the above requirements.

SAIT accepts high school course equivalents for admission for applicants educated outside of 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 outlined above 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

2025/26 tuition and fees

The following costs are effective as of July 1, 2025.

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	$9,034.50	$1,668.60	$10,703.10
2	2	$9,985.50	$1,668.60	$11,654.10
			Total cost:	**$22,357.20**

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 2025/26 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	$19,209	$1,668.60	$20,877.60
2	2	$21,231	$1,668.60	$22,899.60
			Total cost:	**$43,777.20**

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

Books and Supplies

Books and supplies are approximately $2,000 per full-time 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.

Find your booklist on the SAIT Bookstore's website. The booklist will be available closer to the program start date. Can't find your program or course? The bookstore didn't receive a textbook list. Contact your program directly to determine if they're still refining course details or if you're in luck; no textbook purchase is required this term.