Electrical Trade and Technology

MACPHAIL SCHOOL OF ENERGY

Overview

Get hands-on in our two-year Electrical Trade and Technology diploma and take advantage of this unique pathway into an apprenticeship.

You'll be taught by industry-trained instructors who combine theory and hands-on learning, so you develop the in-demand knowledge, skills and practical experience needed to excel as a professional electrician in Canada's dynamic construction industry.

In this program, you will:

- gain comprehensive knowledge and understanding of electrical theory and its application to lighting, power and control equipment
- layout various electrical circuits in residential, commercial, industrial and institutional complexes and buildings
- implement the instructions given in plans and specifications pertaining to electrical installations
- become familiar with the safety requirements for electrical installations
- learn to troubleshoot and maintain electrical systems and equipment
- use the test instruments and tools necessary to perform tasks
- become familiar with the work of other tradespeople in the construction industry and the different types of building construction.

This program will prepare you to work as an electrician, fire alarm technician, electrical contractor, foreman, project manager or estimator, parts person, sales and account representative or renewable energy installer.

If you want an in-demand career with high wages, enjoy working with your hands and find a constantly evolving industry exciting, this program is for you.

After you graduate and complete the required on-the-job training hours, you'll have the opportunity to earn a journeyperson's certificate and pursue your Red Seal certification.

Traits, skills and aptitudes

Those working in electrical trades and technology tend to be objective, innovative and methodical.

You need:

- a willingness to experiment, improvise, innovate, and imagine
- an aptitude for math
- to analyze, evaluate, synthesize, and reconstruct information to make logical and reasoned decisions and judgments
- physical strength and stamina
- to understand and facilitate the connection between people, society and the planet for the sustainability of systems, both cultural and environmental
- to seek out information and experiences and strive to understand
- to work and communicate effectively with others.

Those who find employment working in homes or businesses should be prepared to maintain a neat appearance and be comfortable dealing with customers.

Practicum, Co-op and Work Integrated Learning

After completing the second semester of this program, you will have the option to participate in a work-integrated learning co-op and gain work experience hours that can be used towards your apprenticeship.

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

Red Seal certification

This program aligns with the Alberta Apprenticeship and Industry Training (AIT) curriculum for electricians. If you are in good standing at the end of each semester, you can challenge the AIT exam relevant to that semester.

Graduates of the program are eligible to write both the Construction Electrician Red-Seal exam and the Industrial Electrician Red-Seal exam. Upon passing, you can register as an apprentice and complete the on-the-job training hours to earn your journeyperson designation.

CFAA certification

Electrical contractors and fire safety organizations require highly trained individuals to install, maintain, and inspect fire alarm systems.

Graduates of this program will have completed the technical training requirements for Canadian Fire Alarm (CFAA) technicians and be eligible to challenge the final written and practical exams to earn their certification.

Credentials

After successfully completing this program, you'll receive a SAIT Electrical Trade and Technology diploma.

Admission requirements

Domestic requirements

All applicants must demonstrate English language proficiency and meet the following requirements or equivalents:

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

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	$9,735	$1,764.50	$11,499.50
2	2	$9,735	$1,764.50	$11,499.50

Year	Number of semesters	Tuition fees	Additional fees	Total per year
			Total cost:	**$22,999**

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	$19,866	$1,764.50	$21,630.50
2	2	$19,866	$1,764.50	$21,630.50
			Total cost:	**$43,261**

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 $4,300 per full-time year.

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

Find your booklist on the SAIT Bookstore's website. Booklists are released by semester and made available approximately two weeks before your classes begin.

Personal protective equipment (PPE)

You'll need CSA-approved safety glasses for your labs. No other PPE is required.