

POWER ENGINEERING TECHNOLOGY (PWTY)

Supercharge your career opportunities as a graduate of our power technology program

Maximize your career opportunities with our curriculum accredited by the Technical Standards and Safety Authority (TSSA). Train for operational and supervisory roles in our hands-on TSSA-registered power plant located right on campus. The only program of its kind in northern Ontario, Cambrian produces successful graduates who are in high demand within the industry.

This program prepares you to successfully challenge all the Technical Standards and Safety Authority (TSSA) operating engineering exams up to and including the 2nd Class level of qualification. Advanced-level courses covering management and technical reports exceed the Standardized Power Engineers Examination Committee (SOPEEC) 2nd Class syllabus.

Program highlights

- Accredited by the Technical Standards and Safety Authority (TSSA)
- Hands-on training, including supervisory experience opportunities within Cambrian's TSSA-registered power plant
- Opportunities for industrial work placements and fieldwork
- Students are eligible to challenge all TSSA exams up to and including 2nd Class certification as an Operating Engineer
- Advanced-level courses exceed the SOPEEC 2nd Class syllabus
- Common first and second year with Cambrian's Power Engineering Technician program

Program of study for 2024-25 Academic Year

Students are required to successfully complete an online Lab Safety course (in Moodle) when starting their program at Cambrian. This course *must* be completed prior to entering the labs (as identified in the table below) in the Schools of Skills Training, Engineering Technology and Environmental Studies.

Semester 1		Credits
PEG 1108	Power Plant Operation I ¹	11
PEG 1225	Electricity & Control Systems I	3
PEG 1115	Applied Science	3
PEG 1007	Boilers & Auxiliaries I	4
PEG 1126	Safety & Administration I	2
ENG 1002	College Communications	3
Credits		26
Semester 2		
PEG 1220	Heating, Refrig./Gas Compression I	3
PEG 1231	Power Plant Operations II ¹	11
PEG 1261	Building Systems	3
PEG 1008	Prime Movers I	4
PEG 1215	Applied Chemistry I	2
One General Education course. ²		3
Credits		26
Semester 3		
ENG 1754	Technical Communication	3

PEG 2330	Power Plant Operation III ¹	4
PEG 2325	3A1 - Math, Physics & Thermodynamics	4
PEG 2420	3A2 - Electricity & Control Systems II	4
PEG 2430	3A2- Safety & Administration II	4
One General Education course. ²		3
Credits		22

Semester 4

PEG 2442	Power Plant Operation IV ¹	4
PEG 2410	Power Plant Simulation Operations	3
PEG 2310	3B1 - Applied Chemistry II	2
PEG 2321	3B1 - Boilers and Auxiliaries II	3
PEG 2315	3B2 - Heating, Refrig. & Gas Comp. II	4
PEG 2426	3B2 - Prime Movers II	3
PEG 1006	Nuclear and Alternate Energy	3
One General Education course. ²		3
Credits		25

Semester 5

PEG 3541	Power Plant Operations V ¹	3
TEC 3501	Technical Report Research	1
PEG 3610	2A3 - Industrial Water Treatment	4
PEG 3620	2A3 - Boilers & Auxiliaries III	4
PEG 3625	2B1 - Prime Movers III	4
PEG 3630	2B1 - Piping Systems & Mechanical Drawing	4
Credits		20

Semester 6

PEG 3641	Power Plant Operations VI ¹	3
TEC 3601	Technical Report	1
PEG 3712	2B2 - Fuels Combust. & Envir. Protection	4
PEG 3725	2B2 - Power Plant Systems & Controls	4
PEG 3722	2B3 - Electrotechnology	4
PEG 3715	2B3 - Refrigeration & Gas Compression	4
Credits		20

Semester 7

PEG 1000	2A1 - Applied Mechanics	3
PEG 3530	2A1 - Indust. Admin & Code Calculations	4
PEG 3525	2A2 - Thermodynamics	4
PEG 1001	2A2 - Metallurgy & Testing of Materials	2
Credits		13
Total Credits		152

¹ Course with lab component.

² For more information regarding General Education courses, click here (<https://cambriancollege.ca/general-education-electives/>).

Admission requirements

For graduates of the new curriculum (OSSD): Ontario Secondary School Diploma (30 credits) or equivalent or mature student status, including:

- Any grade 12 English (C) or (U)
- Any grade 12 mathematics (C) or (U) (MCT4C is highly recommended)

Additional admission requirements

Recommendations

- Grade 11 (U) or 12 (U) or (C) chemistry or physics
- Grade 12 technological design or manufacturing technology course (C) or (U)

Program delivery

2024-2025

Fall term start

SEMESTER 1: Fall 2024

SEMESTER 2: Winter 2025

SEMESTER 3: Fall 2025

SEMESTER 4: Winter 2026

SEMESTER 5: Fall 2026

SEMESTER 6: Winter 2027

SEMESTER 7: Fall 2027

Specific program pathways

Graduates of Cambrian's Power Engineering Technician (<https://cambriancollege.ca/programs/power-engineering-technician/>) (PWTN) program OR graduation from an equivalent program OR the possession of a 3rd Class Certificate of Qualification in good standing with the TSSA may allow a candidate to enter directly into the third year of the Power Engineering Technology (PWTY) program.

College or university degree opportunities

If you are a graduate of this program, you may continue your studies at a college or university and you may receive credit(s) for your prior college education. Refer to Cambrian's college and university agreement (<https://cambriancollege.ca/supports-services/articulation-agreements/>) details for further information.

Employment opportunities

Graduates may find employment in industrial and non-industrial settings operating, maintaining and managing complex energy systems. These types of systems may be located in:

- Manufacturing, extractive resource facilities and processing plants
- Power plants, alternative energy and cogeneration facilities
- Refrigeration, liquification and gas compression plants
- Petrochemical facilities, refineries and paper mills
- Institutional and commercial operations such as hospitals, correctional facilities, research facilities and universities
- District energy facilities and heating / cooling plants

In addition to these traditional employers, further employment opportunities may be found in related industries such as pressure vessel inspection.

Contacts

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INTERNATIONAL ADMISSIONS

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