

# POWER ENGINEERING TECHNICIAN (PWTN)

## Ontario College Diploma | 4 semesters | Barrydowne Campus

A TSSA-registered, on-campus power plant. Curriculum that is endorsed by the Technical Standards and Safety Authority (TSSA). A unique program located in northern Ontario. Just a few of the reasons why Cambrian's Power Engineering Technician program is in high demand..

Over four semesters, you'll gain theoretical knowledge and practical skills in all aspects of power plant operation and maintenance. 4th Class level in first year and at the 3rd Class level in second year. Theoretical concepts discussed in class are further explained and reinforced during practical experience in the College's Power Engineering Training Facility.

This facility is where you will learn to operate and maintain working equipment in a safe and efficient manner.

Course subjects closely follow the Standardized Power Engineers Examination Committee (SOPEEC) syllabus and help prepare you to challenge the Technical Standards and Safety Authority (TSSA) examinations required for the 4th and 3rd class level of certification as an Operating Engineer.

Our program is accredited by the Technical Standards and Safety Authority (TSSA). This accreditation will grant a qualifying time reduction to students who successfully complete the program. Upon successful completion of the first year of the program, you will receive a TSSA-issued, qualifying experience time (QET) entitlement of 1440 hours (9 months) of qualifying time towards your 4th Class certification. This QET entitlement will lower the amount of time required for 4th class certification to **480 hours** (3 months) from 1920 hours (12 months). Upon successful completion of the second year of the program, you will receive a TSSA-issued, qualifying experience time (QET) entitlement of 1760 hours (11 months) of qualifying time towards your 3rd class certification. This QET entitlement will lower the amount of time required for 3rd class certification to **160 hours (1 month)** from the 1920 hours (12 months) total experience necessary.

### Program Highlights

- Program length is 2 years (4 semesters); or 1 year (2 semesters) if TSSA certification as a 4th Class Operating Engineer is already possessed
- Program accredited by the Technical Standards and Safety Authority (TSSA)
- One of a few colleges in Ontario to offer this program and the only college in northern Ontario
- Hands-on training experienced in Cambrian's on-campus power plant
- Grads are eligible to challenge the TSSA examinations for 3rd Class certification as an Operating Engineer
- QET entitlement of 1440 hours (9 months) of qualifying time towards your 4th class certificate (successful completion of year one); and an additional QET entitlement of 1760 hours (11 months) of qualifying time towards your 3rd class certificate (successful completion of year two)

## Fieldwork/Placement

Students in the Power Engineering Technician program will have opportunities to gather further qualifying time during industrial work placements. These placements are traditionally obtained over the summer period between the end of year one and the start of year two.

### Capped Enrolment

### Quick Links

How to Apply (<http://cambriancollege.ca/apply/>)

Engineering Technology (<http://cambriancollege.ca/field-of-study/engineering-technology/>)

## Admission Requirements

For graduates of the new curriculum (OSS): 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)

Recommended:

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

## Advanced Standing

Graduates of Cambrian's Power Engineering Techniques (PETQ) program or its equivalent who also possess a 4th Class Certificate of Qualification - in good standing with the TSSA (<https://www.tssa.org/regulated/operating/Default.aspx>) - may apply to enter directly into Semester 3 of the Power Engineering Technician (PWTN) or Power Engineering Technology (PWTY) program. This is a competitive process.

APPLY NOW! (<https://www.ontariocolleges.ca/en/apply-now/>)

## Program Delivery

### 2023-2024

This program will be delivered in the following terms:

### Fall Term Start

1. **SEMESTER 1** Fall 2023
2. **SEMESTER 2** Winter 2024
3. **SEMESTER 3** Fall 2024
4. **SEMESTER 4** Winter 2025

For specific term start/end dates and other key dates/deadlines, please see the Academic Schedule (<http://cambriancollege.ca/apply/how-to-apply/academic-schedule/>) on our website.

## Program of Study for 2023-24 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 <sup>1</sup>	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
<b>Credits</b>		<b>26</b>
<b>Semester 2</b>		
PEG 1220	Heating, Refrig./Gas Compression I	3
PEG 1231	Power Plant Operations II <sup>1</sup>	11
PEG 1261	Building Systems	3
PEG 1008	Prime Movers I	4
PEG 1215	Applied Chemistry I	2
One General Education course. <sup>2</sup>		3
<b>Credits</b>		<b>26</b>
<b>Semester 3</b>		
ENG 1754	Technical Communication	3
PEG 2330	Power Plant Operation III <sup>1</sup>	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. <sup>2</sup>		3
<b>Credits</b>		<b>22</b>
<b>Semester 4</b>		
PEG 2442	Power Plant Operation IV <sup>1</sup>	4
PEG 2310	3B1 - Applied Chemistry II	2
PEG 2410	Power Plant Simulation Operations	3
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. <sup>2</sup>		3
<b>Credits</b>		<b>25</b>
<b>Total Credits</b>		<b>99</b>

<sup>1</sup> Course with Lab Component

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

For students who wish to continue their education in Power Engineering Technology; an additional 1-credit course "Field Placement II" is necessary between second and third year. Placement officers will provide assistance in obtaining placement opportunities for these students.

## Fees

### Tuition and Ancillary Fees

Please see our fees page (<http://cambriancollege.ca/fees/>) for the breakdown of tuition and mandatory ancillary fees by program and semester for both domestic and international students.

The program will schedule TSSA examination dates at appropriate times during the semesters. This will allow the student to sit the TSSA exam on-site at Cambrian College. A sitting fee will be required to avail yourself of

this service. Fee costs and the exam registration process will be provided during orientation.

## Books & Supplies

The cost of books and supplies for Year 1 is approximately \$2,000. Any voluntary student testing costs, such as the TSSA Operating Engineering certifications, will have additional fees. This is the best information available at the time of publishing to the website and is subject to change.

## Graduate Options

### Furthering Your Studies

Students successfully completing the Power Engineering Technician program may enter directly into the Power Engineering Technology program. This will be of great assistance to those students considering certification at the second class level.

## Employment Opportunities

Graduates may find employment in industrial and non-industrial settings having pressure plants registered by the TSSA and requiring services of a certified operating engineer. These settings may be located in:

- Manufacturing plants
- Cogeneration facilities
- Refrigeration plants
- Mining operations
- Pulp and paper mills
- Hospitals
- District heating plants

In addition to these traditional employers; non-registered plants located within institutional and commercial facilities provide yet another employment opportunity to power engineers. Third class operating engineers are also able to find employment in the pressure vessel inspection industry.

## College/University Degree Opportunities

Graduates from this program may continue their studies at college/university and may receive credit for their prior College education.

Refer to College/University Agreements (<http://www.cambriancollege.ca/agreements/>) for further information.

## Contacts

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### INTERNATIONAL ADMISSIONS

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