

# POWER ENGINEERING TECHNICIAN (PWTN)

## Ontario College Diploma | 4 semesters | Barrydowne

A TSSA-registered, on-campus 2nd Class 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 Plant Training Facility. This facility is where you will 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 4th Class and 3rd Class certifications as an Operating Engineer.

The program has been officially recognized and approved by the Technical Standards and Safety Authority (TSSA). This approval will grant a qualifying time reduction to you upon successful completion of the program. After successful completion of the first year of the program, you will complete an approved three month placement, which will enable you to obtain the necessary qualifying time for 4th Class certification. Students are responsible for completing the TSSA 4A and 4B testing requirements of the Operating Engineer certification.

With 4th Class Operating Engineering certification received, students can begin obtaining the 3rd Class qualifying time reduction offered in the second year in the Power Plant Training Facility. Their academic studies continues with curriculum tailored to prepare for the 3rd Class examinations.

### 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 endorsed 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 in Cambrian's 2nd Class power plant
- Grads are eligible to challenge the TSSA examinations for 3rd Class certification as an Operating Engineer

### Fieldwork/Placement

After the first year, you will undertake an approved 3 month placement with an approved company or agency. This placement, when coupled with the qualifying time reduction granted to you upon successful completion of the program, will grant you the 12 month qualifying time required for 4th Class certification.

### 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

#### 2022-2023

This program will be delivered in the following terms:

#### Fall Term Start

1. SEMESTER 1 Fall 2022
2. SEMESTER 2 Winter 2023
3. SEMESTER 3 Fall 2023
4. SEMESTER 4 Winter 2024

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 2022-23 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>

**Semester 2**

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
PEG 1002	Field Placement I	1
One General Education course. <sup>2</sup>		3
<b>Credits</b>		<b>27</b>

**Semester 3**

PEG 1003	Credential Validation I	1
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>23</b>

**Semester 4**

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
PEG 1004	Field Placement II	1
One General Education course. <sup>2</sup>		3
<b>Credits</b>		<b>26</b>
<b>Total Credits</b>		<b>102</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 and obtaining a valid 3rd Class Operating Engineering certificate 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 in high rise and commercial buildings 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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