

# POWER ENGINEERING TECHNOLOGY (PWTY)

## Ontario College Advanced Diploma | 7 semesters | Barrydowne and Online

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 Technology program is in high demand.

This program will help you maximize your career opportunities by preparing to challenge the TSSA 2nd Class Operating Engineering exam. It will also prepare you for supervisory and management roles in power plants and other industrial settings.

You'll gain knowledge and skills in all aspects of power plant operation and maintenance, both theoretical and practical, at the 4th Class level in first year, the 3rd Class level in second year, and the 2nd Class level in your final year.

Theoretical concepts discussed in class are further explained and illustrated in the College's Power Plant Training Facility – a registered 2nd Class plant where you will help to operate and maintain working equipment in a safe and efficient manner.

Depending on how the student wishes to proceed with their studies; the third year is available as a combination of online or classroom environments. This delivery alternative gives students the flexibility to learn from the convenience of their home communities. However, **it is important to note that the qualifying time reduction will not be available to students who choose the online only version of the third year.**

Subjects of instruction closely follow the Standardized Power Engineers Examination Committee (SOPEEC) syllabus and will help prepare you to challenge the Technical Standards and Safety Authority (TSSA) examinations required for certification as a 2nd Class Operating Engineer.

This program has been officially recognized and approved by the Technical Standards and Safety Authority. This will grant a qualifying time reduction to you upon successful completion of the program; but only to students who pursue the full-time, day program method of instruction.

### Program Highlights

- 3 years – 7 semesters
- Final year consists of 45 weeks over three semesters; fall/winter/fall. Entry to the PWTY program is possible at the beginning of each of the three semesters.
- Theory subjects are offered online to students who are interested in obtaining the utmost of flexibility with their studies.
- Full program endorsed by the Technical Standards and Safety Authority (TSSA).
- Hands-on training in Cambrian's 2nd Class power plant
- Advanced level courses involving management of power plants, technical reports, and aspects which comply and exceed the Standardized Power Engineers Examination Committee (SOPEEC) 2nd Class syllabus

- Students are eligible to challenge the TSSA examinations for 2nd Class certification as an Operating Engineer

### Fieldwork/Placement

In addition to the qualifying time granted by TSSA upon successful completion of the program, you are required to complete two work placements in order to obtain the qualifying time necessary to obtain 4th and 3rd Class Operating Engineering certification. After the first year, you must complete an approved three month placement toward your 4th Class certification, and after the second year, an approved one month placement toward your 3rd 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 (OSSD): Ontario Secondary School Diploma (30 credits) or equivalent or mature student status, including:

- Any grade 12 English (C), (U), or (M)
- Any grade 12 mathematics (C) or (U) (MCT4C is highly recommended)
- Any grade 11 or 12 chemistry or physics (C), (U), or (M)

Recommended:

- Grade 12 technological design or manufacturing technology course (C), (U), or (M)

### Advanced Standing

Graduates of Cambrian's Power Engineering Technician (PWTN) program or its equivalents who have received their 3rd Class Certificate of Qualification in good standing with the TSSA may apply to enter directly into the third year of the Power Engineering Technology (PWTY) program.

This is a competitive process.

**APPLY NOW!** (<http://ontariocolleges.ca/apply>)

### Program Delivery

#### 2019-2020

This program will be delivered in the following terms:

#### Fall Term Start

1. SEMESTER 1 Fall 2019
2. SEMESTER 2 Winter 2020
3. SEMESTER 3 Fall 2020
4. SEMESTER 4 Winter 2021
5. SEMESTER 5 Fall 2021
6. SEMESTER 6 Winter 2022
7. SEMESTER 7 Fall 2022

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

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.

<b>Semester 1</b>		<b>Credits</b>
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
Credits		23
<b>Semester 2</b>		
ENG 1002	College Communications	3
PEG 1220	Heating, Refrig./Gas Compression I	3
PEG 1231	Power Plant Operations II <sup>1</sup>	11
PEG 1008	Prime Movers I	4
PEG 1215	Applied Chemistry I	2
PEG 1002	Field Placement I	1
The following General Education course:		3
BUS 1008	Personal Finance	
Credits		27
<b>Semester 3</b>		
PEG 1003	Credential Validation I	1
ENG 1754	Technical Communication	3
PEG 2325	Math, Physics & Thermodynamics	4
PEG 2330	Power Plant Operation III <sup>1</sup>	4
PEG 2420	Electricity & Control Systems II	4
PEG 2430	Safety & Administration II	4
One of the following General Education courses:		3
BUS 1015	Negotiation & Labour Relations	
CET 1003	Cybernation	
MUS 1009	Rock Music, Culture & Technology	
PSY 1001	Psychology of Evil	
SCI 1000	Issues and Ethics in Science	
Credits		23
<b>Semester 4</b>		
PEG 2310	Applied Chemistry II	2
PEG 2315	Heating, Refrig. & Gas Comp. II	4
PEG 2321	Boilers and Auxiliaries II	3
PEG 2426	Prime Movers II	3
PEG 2442	Power Plant Operation IV <sup>1</sup>	4
PEG 1004	Field Placement II	1
PEG 1006	Nuclear and Alternate Energy	3
One of the following General Education courses:		3
BUS 1015	Negotiation & Labour Relations	
CET 1003	Cybernation	
MUS 1009	Rock Music, Culture & Technology	
PSY 1001	Psychology of Evil	
SCI 1000	Issues and Ethics in Science	
Credits		23
<b>Semester 5</b>		
PEG 1005	Credential Validation II	1
PEG 3541	Power Plant Operations V <sup>1</sup>	3

TEC 3501	Technical Report Research	1
PEG 3610	Industrial Water Treatment	4
PEG 3620	Boilers & Auxiliaries III	4
PEG 3625	Prime Movers III	4
PEG 3630	Piping Systems & Mechanical Drawing	4
Credits		21
<b>Semester 6</b>		
PEG 3641	Power Plant Operations VI <sup>1</sup>	3
PEG 3712	Fuels Combust. & Envir. Protection	4
PEG 3715	Refrigeration & Gas Compression	4
PEG 3722	Electrotechnology	4
PEG 3725	Power Plant Systems & Controls	4
TEC 3601	Technical Report	1
Credits		20
<b>Semester 7</b>		
PEG 1000	Applied Mechanics	3
PEG 1001	Metallurgy & Testing of Materials	2
PEG 3525	Thermodynamics	4
PEG 3530	Indust. Admin & Code Calculations	4
Credits		13
Total Credits		150

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

## 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. This is the best information available at the time of publishing to the website and is subject to change.

## Graduate Options

### Employment Opportunities

Graduates may find employment in industrial and non-industrial settings having power plants, heating plants, refrigeration plants or attended equipment registered by the Technical Standards & Safety Authority and requiring the services of Certified Operating Engineers. These settings may be located in:

- Manufacturing plants
- Cogeneration facilities
- Refrigeration plants
- Pulp and paper mills
- Hospitals

- District heating plants
- Factories

In addition to these traditional employers, many non-registered plants located in high rise and commercial buildings employ power engineers to operate and maintain their complex heating and cooling systems. Typically, graduates who have completed studies to this level will find employment as shift engineers or other supervisory positions within the industry. Further employment opportunities could be found in related industries such as pressure vessel inspection.

## **Contacts**

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