

# POWER ENGINEERING TECHNOLOGY (PWTY)

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

A registered 2nd Class power plant training facility on campus. Curriculum that is endorsed by the Technical Standards and Safety Authority (TSSA). The only program of its kind in northern Ontario. Just a few of the reasons to take Cambrian's Power Engineering Technology program.

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.

The third year is delivered as a combination of online or classroom environments. This delivery alternative gives students the flexibility to learn from the convenience of their home communities.

Subjects of instruction 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 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.

### 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.
- Full program endorsed by the Technical Standards and Safety Authority (TSSA).
- Advanced standing (direct entry to third year) is possible for applicants who possess a 3rd Class Operating Engineer's Certificate of Qualification issued 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

#### 2018-2019

This program will be delivered in the following terms:

#### Fall Term Start

1. **SEMESTER 1** Fall 2018
2. **SEMESTER 2** Winter 2019
3. **SEMESTER 3** Fall 2019
4. **SEMESTER 4** Winter 2020
5. **SEMESTER 5** Fall 2020
6. **SEMESTER 6** Winter 2021
7. **SEMESTER 7** Fall 2021

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              |
| PEG 1006                                        | Nuclear and Alternate Energy           | 3              |
| Term Credits:                                   |                                        | 26             |
| <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                       | 3              |
| Term 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           | 3              |
| CET 1003                                        | Cybernation                            | 3              |
| MUS 1009                                        | Rock Music, Culture Technology         | 3              |
| PSY 1001                                        | Psychology of Evil                     | 3              |
| SCI 1000                                        | Issues and Ethics in Science           | 3              |
| Term 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              |
| One of the following General Education courses: |                                        | 3              |
| BUS 1015                                        | Negotiation Labour Relations           | 3              |
| CET 1003                                        | Cybernation                            | 3              |
| MUS 1009                                        | Rock Music, Culture Technology         | 3              |
| PSY 1001                                        | Psychology of Evil                     | 3              |
| SCI 1000                                        | Issues and Ethics in Science           | 3              |
| Term Credits:                                   |                                        | 20             |
| <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 3712          | Fuels Combust. Envir. Protection       | 4   |
| PEG 3715          | Refrigeration Gas Compression          | 4   |
| PEG 3722          | Electrotechnology                      | 4   |
| PEG 3725          | Power Plant Systems Controls           | 4   |
| Term Credits:     |                                        | 21  |
| <b>Semester 6</b> |                                        |     |
| PEG 3641          | Power Plant Operations VI <sup>1</sup> | 3   |
| PEG 1000          | Applied Mechanics                      | 3   |
| PEG 1001          | Metallurgy Testing of Materials        | 2   |
| PEG 3525          | Thermodynamics                         | 4   |
| PEG 3530          | Indust. Admin Code Calculations        | 4   |
| TEC 3601          | Technical Report                       | 1   |
| Term Credits:     |                                        | 17  |
| <b>Semester 7</b> |                                        |     |
| 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   |
| Term Credits:     |                                        | 16  |
| 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

### 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 of Power Engineering find employment in supervisory positions within the industry or in related industries like pressure vessel inspection..

## **Contacts**

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