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Trades and Applied Technology Programs

Power Engineering/Process Operator - 4th Class

Location Offered:

Nanaimo

Credential:

Certificate

Program Length:

32 Weeks

The Program

The Fourth Class Power Engineering/Process Operator Certificate Program prepares graduates for employment as power engineers, able to operate, maintain, and manage industrial power and processing plants. This full-time program includes theory and extensive training in an industry workplace practicum. Upon successful completions, graduates will have the knowledge and hands-on experience to challenge the Technical Safety BC standardized examinations for an Interprovincial Fourth Class Power Engineer's Certificate of Competency. The program also prepares graduates with technical knowledge required for a process operator.

Program Outline

Term 1	Credits
PENG 100T - (Boilers, Boiler Systems, Codes and Standards)	2.2
PENG 101T - (Elementary Mechanics and Dynamics)	1.7
PENG 102T - (Elementary Chemistry and Thermodynamics)	1.2
PENG 103T - (Power/Heating Plant Safety and Environment)	1.0
PENG 104T - (Material, Welding, Piping, Valves, Energy Plant Controls and Instrumentation)	1.3
PENG 105T - (Plant Communications)	1.0
PENG 106T - (Electricity)	1.3
PENG 130T - (Power Engineering Review and Exams)	1.0
Total Term 1 Credits	10.7

Term 2	Credits
PENG 120T - (Work Practicum)	9.0
Total Term 2 Credits	9.0

Term 3	Credits
PENG 107T - (Prime Movers, Pumps and Compressors)	1.7
PENG 108T - (Power/Heating Plant Operation and Maintenance)	1.5
PENG 109T - (Water Treatment)	1.5
PENG 110T - (Refrigeration and Heating Ventilation and Air Conditioning)	1.3
PENG 111T - (Auxiliary Building Systems, Heating and Cooling Systems)	1.3
PENG 112T - (Types of Plants & Gas Process Operations)	2.0
PENG 131T - (Power Engineering Review and Exams)	1.0
Total Term 3 Credits	10.3

All program courses must be successfully completed before certificates will be issued.

Completion Requirements

To maintain progression in the program and to graduate with the Fourth Class Power Engineering/Process Operator Certificate from VIU, students must obtain a minimum of 50% per course and a minimum program average of 65%, and must meet attendance requirements (90% attendance for coursework; 100% attendance for 480 hours of Work Practicum).

Students must meet Technical Safety BC requirements for Examinations for Certification as a Fourth Class Power Engineer.

Admission Requirements

The program is designed for students with little or no previous experience in power engineering or process operation.

Applicants must meet the following minimum requirements for admission to the program:

- Grade 12, or equivalent, or mature student status, with the following minimum course requirements:
 - Foundations of Mathematics 11 (C+), or Pre-Calculus (C+)
 - Physics 11
 - English 12
- Successful completion of assessment testing.
- Personal profile.
- See also Trades general admission requirements.
- Applicants may be interviewed to ensure suitability to this program.

Notes on Admission

- A mechanical and electrical aptitude is desirable.
- Communication skills, good vision, manual dexterity, and decision-making are an asset.
- Those with good reading and comprehension skills, basic science, mathematics, and study skills have the most success in the program.
- It is suggested that to achieve higher levels in the Power Engineering profession, students must have computer skills, chemistry, and Mathematics 12.
- A medical certificate may be required prior to work practicum placement. Applicants should be in good physical health, have sufficient physical strength to meet work demands (capable of lifting 20 kg/44 lbs.), good hearing and eyesight, and normal colour vision. Employers may also require a driver's license and/or

criminal record check.

- Enrolment in this program is limited. Students who meet or exceed the minimum admission requirements may not necessarily be admitted to the program. During the selection process, preference will be given to applicants with previous post-secondary experience, related commercial/industrial experience and superior achievement level on assessment testing.

Program Regulations

To maintain progression in the program, students must obtain a minimum grade of 50% per course and a program average of at least 65% to complete the program and receive a certificate as mandated by Technical Safety BC. Students must attend a minimum of 90% of all classes, and 100% in all lab activities, tours, and the Work Practicum.

If a student, for any reason, is unable to complete the work practicum placement provided, he/she will be required to obtain that training on their own, in a placement acceptable to the school and acceptable to BCSA, before writing Part 'B' of the Technical Safety BC 4th Class Power Engineering Standardized Examination.

Career Opportunities

Industry demand for qualified power engineers and process operators is high. Power engineers are required in many industries including: pulp and paper, sawmills, oil and gas, refrigeration plants, food processing, mines, utilities, hospitals, universities, public and commercial buildings, and other industrial and manufacturing plants. Canadian law requires Certification to work as a power engineer. The proposed program is driven by the needs of industry and meets the standards established for Interprovincial Certification.

Start Date and Application Deadline

Applications are accepted on an ongoing basis.

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