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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 BC Safety Authority (BCSA) 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

Semester I	Credits
PENG 100T - (Introduction to Power Engineering and High Pressure Boilers)	1.6
PENG 101T - (Math and Applied Mechanics)	1.6
PENG 102T - (Thermodynamics, Water Treatment, and Chemistry)	1.3
PENG 103T - (Safety and Environment)	1.2
PENG 104T - (Piping, Welding, Sketching and Plant Maintenance)	1.3
PENG 105T - (Prime Movers)	1.3
PENG 106T - (Heating, Boilers and Controls)	1.3
PENG 107T - (Technical Communications and Computers)	1.5
PENG 108T - (Electricity)	1.3
PENG 109T - (Instrumentation and Controls)	1.3
PENG 110T - (Refrigeration)	1.3
Total Credits	15

Semester II	Credits
PENG 111T - (Air Conditioning and Systems)	1.3
PENG 112T - (Types of Plants & Gas Process Operations)	2.6
PENG 120T - (Work Practicum)	9.0
PENG 130T - (Power Engineering Review and Exams)	2.1
Total Credits	15
Program Credits	30

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 BC Safety Authority 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:
 - Any BC Math 11 course except Essentials of Mathematics 11
 - Science 10 or equivalent
 - English 11
- 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, study skills have the most success in the program.
- Computer skills, Physics 11, Mathematics 12 and English 12 are suggested to achieve higher levels in the Power Engineering profession.
- 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 as per industry standard), good hearing and eyesight, and normal colour vision. Employers may also require a driver's license and/or criminal record check, and may require Grade 12.
- 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%. Students must attend a minimum of 90% in all coursework, 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 BC Safety Authority 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. For further information regarding next available program start dates, applications, and program contacts check the Program Availability List.

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