

INSTRUMENTATION AND CONTROL TECHNICIAN

(Industrial Instrument Mechanic)

Credential Issued:

ITA Certificate of Qualification (Industrial Instrument Mechanic)
Inter-Provincial Red Seal Endorsement (Instrumentation and Control Technician)
(Persons completing a formal apprenticeship also receive a Certificate of Apprenticeship)

Occupational Description:

“Instrumentation and Control Technician” means a person who installs, repairs, maintains, replaces, calibrates, programs and general services all process monitoring and/or control instruments including indicators, recording devices, control loops and computers whether these instruments are pneumatic, hydraulic, electronic, electrical, mechanical, fluidic, nuclear, optical or chemical including signal transmission, telemetering and digital devices in industrial operations.

Program Duration & Structure:

The program will be delivered in a variety of formats combining in-school and work-based training, all designed to meet the competency standards and profile defined by the industry, and will generally take 4 years to complete. The program includes:

- In-school: (1,200 hours) 40 weeks* - approximately 10 weeks (300 hours) per level
- Work-based: 6,000 hrs

*The in-school / technical training requirement is typically met through block release training delivered by an ITA approved training provider. It can also be met through approved alternative training models (e.g. distance education, part-time) and / or level challenge exam where these options are available.

Program Completion Requirements:

Completion of 6,000 workplace hours:

- Recommendation for Certification signed by the Sponsor and a certified Instrumentation and Control Technician or holder of an ITA-issued letter authorizing supervision and sign-off of apprentices in the trade.

Completion of technical training:

- Level 1 – in-school assessment and ITA standardized examination
- Level 2 – in-school assessment and ITA standardized examination
- Level 3 – in-school assessment and ITA standardized examination
- Level 4 – in-school assessment and ITA standardized examination

Inter-Provincial Red Seal Examination

Program Challenge Requirements:

- 9,000 documented hours of directly related work experience required to challenge Inter-Provincial Red Seal examination.

Program Pre-requisites:

- Recommended Education: Grade 12 diploma, including English 12, Math 11 (Applications of Math 11 or Principles of Math 11), and Physics 11

Assessment Methods:

- In-school assessments (practical and written exams)
- Work-based assessments (practical)
- Final Assessments (Inter-Provincial Red Seal written examination)
- ITA Standardized level examinations available

Linkages to Other Credentials:

<i>Cross Program Credit</i>
<ul style="list-style-type: none">▪ Holders of a BC Certificate of Qualification in Industrial Electrician will receive technical training credit for Level 1 Industrial Instrument Mechanic
<ul style="list-style-type: none">▪ Holders of an Industrial Instrumentation and Controls two-year diploma will receive technical training credit for Level 1 and Level 2 Industrial Instrument Mechanic
<ul style="list-style-type: none">▪ Holders of an Industrial Instrumentation and Controls one-year certificate will receive technical training credit for Level 1 Industrial Instrument Mechanic

Prior Learning Assessment:

n/a

Program Standards Documentation:

- National Occupational Analysis 2007 www.red-seal.ca
- Program Outline

Industry Program Standards Mechanism:

Resource Industry Training Organization (RTO) info@rtobc.com

Program Providers:

Institution-based component of the program will be delivered by public post-secondary institutions (see www.educationalplanner.bc.ca/apprenticeship.cfm for a list of schools), private training institutions, and secondary schools that have been approved by the ITA.

Technical Training Content:**Level 1**

Applies Occupational Skills
Installs and Maintains Measuring and Indicating Devices
Installs and Maintains Safety and Process Monitoring Systems
Installs and Maintains Pneumatic and Hydraulic Systems
Installs and Maintains Electrical and Electronic Systems
Installs and Maintains Final Control Elements
Installs and Maintains Communications, Networking and Signal Transmission Systems
Installs and Maintains Control Systems

Level 3

Applies Occupational Skills
Installs and Maintains Measuring and Indicating Devices
Installs and Maintains Analytical Instrumentation
Installs and Maintains Final Control Elements
Installs and Maintains Communications, Networking and Signal Transmission Systems
Installs and Maintains Control Systems

Level 2

Applies Occupational Skills
Installs and Maintains Measuring and Indicating Devices
Installs and Maintains Pneumatic and Hydraulic Systems
Installs and Maintains Electrical and Electronic Systems
Installs and Maintains Communications, Networking and Signal Transmission Systems
Installs and Maintains Control Systems

Level 4

Applies Occupational Skills
Installs and Maintains Measuring and Indicating Devices
Installs and Maintains Analytical Instrumentation
Installs and Maintains Safety and Process Monitoring Systems
Installs and Maintains Final Control Elements
Installs and Maintains Communications, Networking and Signal Transmission Systems
Installs and Maintains Control Systems

IP Exam Competencies: (NOA – 2007)

1. Occupation Skills 9%
2. Measuring and Indicating Devices 25%
3. Analyzers, Safety Systems and Security Systems 11%
4. Energy Systems 8%
5. Final Control Elements 19%
6. Communications, Networking and Signal Transmission 11%
7. Control Systems 17%

Approved: March 2002 (ITAC)

Updated: February 2008

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