
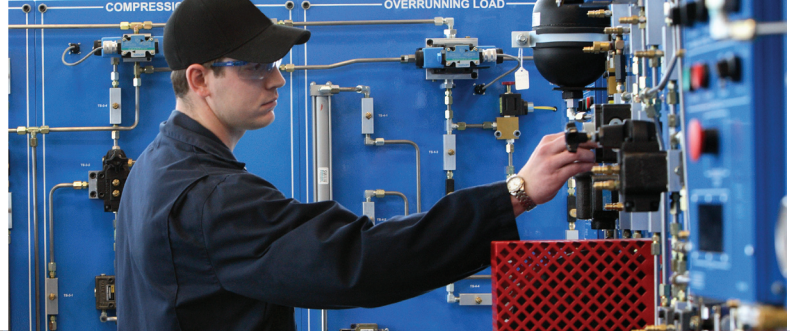

NAIT SHELL
MANUFACTURING CENTRE

Within the manufacturing industry, there are exceptional opportunities for those who have Fluid Power Certification. A new six-module program has been developed by NAIT in cooperation with representatives from the Fluid Power industry.

FLUID POWER CERTIFICATE

PRODUCTIVITY ENHANCEMENT SERVICES

LOCATION: MAIN CAMPUS, EDMONTON

PROGRAM OVERVIEW

Within the manufacturing industry, there is exceptional earning potential for those who have Fluid Power Certification. A new six-module program has been developed by NAIT in cooperation with representatives from the Fluid Power industry. Most modules consist of 28 hours of instruction, approximately 50% lecture format and 50% hands-on lab.

Once all six modules are successfully completed, you will receive a NAIT certificate in Fluid Power Level I.

COURSES

Courses generally run Saturday and Sundays for two weekends.

Introduction to Fluid Power [FPC101]

Learn the fundamental theories and working principles of Fluid Power, and apply this knowledge to schematic interpretation, safety awareness, basic system components and function. Upon completion of this module you will be able to:

- Interpret fluid power schematics
- Explain fluid power theory
- Apply basic physics as related to fluid power technology
- Demonstrate safe and environmentally safe work practices
- Identify various industry groups that use fluid power
- Recognize and apply correct fluid power symbols

Fee: $525 | Prerequisite: None

March 14 to 22, 2009 | 8:30 am – 4:30 pm or
October 31 to November 8, 2009 | 8:30 am – 4:30 pm

Fluid Power Components [FPC102]

If you are employed or seeking employment within the fluid power industry, you will require a thorough understanding of related components — design theory, operation, application and maintenance of hydraulic components. Topics include:

- Design and operation of individual components
- Component inter-relationships
- Internal components — identify and dismantle
- Identification of component wear areas
- Operating parameters using system data
- Troubleshooting

Fee: $525 | Prerequisite: FPC101 or equivalent

April 25 to May 3, 2009 | 8:30 am – 4:30 pm or
November 14 to 22, 2009 | 8:30 am – 4:30 pm

Fluid Power Inspection [FPC103]

Gain practical know-how related to inspection of fluid power components. Learn proper disassembly/assembly procedures for specific hydraulic components in both field and shop settings and be able to:

- Differentiate between field and shop repairs
- Apply proper maintenance and assembly procedures
- Select and demonstrate appropriate measuring techniques
- Use testing procedures for bench work
- Demonstrate awareness of displacing components
- Understand Non-destructive Testing (NDT) Techniques

Fee: $525 | Prerequisite: FPC101 or equivalent

June 6 to 14, 2009 | 8:30 am – 4:30 pm or
January 16 to 24, 2010 | 8:30 am – 4:30 pm



FLUID POWER CERTIFICATE

TECHNICAL INFORMATION

Contact Vern Gorman,
Chair, Millwright Program
Phone: 780.471.7844 or
Email: verng@nait.ca
www.nait.ca/FPC

GENERAL INFORMATION AND CUSTOMIZATION

Contact Mave Dhariwal, MBA, PMP
Operations Manager, NAIT Shell Manufacturing Centre (NSMC)
Phone: 780.471.7500 or
Email: maved@nait.ca
www.nait.ca/NSMC

TO REGISTER

Phone: 780.471.6248

SCHEDULE INFORMATION

Phone: 780.471.7733

Fluid Power Conductors [FPC104]

Everything you need to know about fluid conductors, connectors, flushing and related components and more. Gain practical knowledge about:

- Conductor types and variables
- Fluid power sealing
- Correct flushing procedures
- Appropriate accumulator maintenance/installation
- Prime movers and elements
- Calculations related to cooler sizing/application
- Fluid types and applications
- Methods of fluid conditioning (contamination control, temperature)
- Lubrication requirements for fluid power components

Fee: $525 | Prerequisite: FPC101 or equivalent

September 12 to 20, 2009 | 8:30 am – 4:30 pm or
February 27 to March 2, 2010 | 8:30 am – 4:30 pm

Fluid Power Controls [FPC105]

Develop your understanding of electronic control and automatic measurement of industrial fluid power systems by learning basic continuous control theory, measurement systems and devices, and various control systems. Emphasis is on selecting and specifying position, motion, and force sensors, along with writing and executing programmable logic controller (PLC) algorithms for specific applications. Practical lab work (approx. 60%) will reinforce theoretical content, to enable you to:

- Select application-specific pump/valve/motor controls
- Discuss emerging technologies
- Understand fluid conditioning within pneumatic systems
- Relate industry standards
- Summarize basic electronics
- Review basic electrical theory
- Use PLC software
- Interpret electronic schematics

Fee: $525 | Prerequisite: FPC101 or equivalent

October 17 to 25, 2009 | 8:30 am – 4:30 pm or
April 10 to 18, 2010 | 8:30 am – 4:30 pm

Fluid Power – Basic Troubleshooting [FPC106]

By applying a methodical approach, you will learn how to diagnose faulty hydraulic systems effectively and efficiently. Emphasis will be placed on:

- Implementation of troubleshooting concepts (circuits/systems/components)
- Four methods of system-level troubleshooting
- Identification and troubleshooting of three categories of hydraulic system faults
- Safe diagnosis of a hot hydraulic system
- Diagnostic tooling and electronic controls
- Troubleshooting using PLC indicator lights
- Documenting system changes

Fee: $525 | Prerequisite: FPC101 or equivalent

November 21 to 29, 2009 | 8:30 am – 4:30 pm or
May 29 to June 6, 2010 | 8:30 am – 4:30 pm