

Millwright Mechanical Technician

▶ PROGRAM DESCRIPTION

★ 1 CO-OP TERM: MAY - AUGUST

The role of an Industrial Mechanical Millwright (IMM) is to install, service and maintain equipment used in mechanical processes and plant functions. Lambton's College's Millwright Mechanical Technician program is presented in a Co-op/Diploma (CODA) format. Eligible students can apply for available co-op positions and graduates obtain an Ontario College diploma. As well, eligible incoming students have the option to register as Ontario Industrial Millwright Apprentices.

Graduates complete all of the Ontario IMM in-school training requirements set by the Ministry of Training, Colleges and Universities (MTCU). The MTCU require no additional in-school apprenticeship training or exemption testing although graduates must complete their Apprenticeship Competencies and pass a Certificate of Qualification in order to become registered millwrights.

Program subjects include machining, welding, motors, pumps, valves, conveyors, compressors, blueprint reading, hydraulics, pneumatics, power transmission and more. Technician level training raises the bar in courses such as Industrial Materials and Metallurgy, Preventive and Predictive maintenance (including Vibration, NDE, Balancing), Project Management, AutoCAD and Electronics/Electricity. Note: A formal agreement between Lambton College and the Alberta Apprenticeship and Industry Training Office grants graduates of the Millwright Mechanical Technician program (who are Ontario registered apprentices) recognition for the first three periods of Alberta's Millwright Apprentice in-school training..



For co-op information, contact:

Kyle Walker, Job Developer
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▶ COURSE LIST

Term 1	Term 2	Co-op Term
<p>IMT-1107 Maintenance Tools and Techniques</p> <p>IMT-1132 Rigging and Hoisting</p> <p>COM-1113 Workplace Communications</p> <p>JSS-1001 Job Search and Success</p> <p>MTH-1253 Mechanical Mathematics I</p> <p>WEL-1123 Safety and Welding Basics</p>	<p>IMT-1233 Introduction to Pumps, Machines, and Piping</p> <p>IMT-2205 Maintenance Machine Shop</p> <p>IMT-2223 Advanced Engineering Drawings</p> <p>IMT-2245 Power Transmission, Bearings and Lubrication</p> <p>MTH-2153 Mechanical Mathematics II</p> <p>WEL-2225 Advanced Welding and Fabrications</p> <p>IMT-2602 Schematics and Cataloguing</p>	<p>CPL-1049 Co-op Work Term (Optional)</p>
Term 3	Term 4	
<p>IMT-2525 Pneumatics and Hydraulics</p> <p>IMT-2364 Basic Science and Mechanic Theory</p> <p>ELE-1044 Electrical Fundamentals</p> <p>IMT-4414 Advanced Compressors and Pumps</p> <p>GED-XXX3 General Education Elective</p> <p>GED-XXX3 General Education Elective</p>	<p>IMT-1413 Industrial Materials and Metallurgy</p> <p>IMT-3444 Preventative and Predictive Maintenance</p> <p>IMT-4234 Industrial Automation</p> <p>IMT-4622 Shutdown Lean Manufacturing</p> <p>IMT-3543 Turbines and Prime Movers</p> <p>GED-XXX3 General Education Elective</p>	



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► PROGRAM CAPABILITIES

Co-op Term

- Analyze and solve basic technical problems related to mechanical environments
- Work responsibly and effectively in accordance with appropriate practices and procedures
- Complete all work in compliance with health and safety legislation and prescribed organizational practices and procedures to ensure safety of self and others (ex.) lockout and confined space safety procedures
- Interpret and prepare graphics and other technical documents to appropriate engineering standards
- Analyze, plan, draw and use equipment required to fabricate and install threaded piping arrangements including fittings and valves
- Apply knowledge of machinery, tools, and other equipment to manufacture and assemble components to required specifications
- Select and use rigging hoisting equipment, plan lifts, perform calculations using load charts, use hand and radio signals, tie knots for rigging, help set up cranes, build scaffold, help set in base plates for equipment
- Read welding drawings and symbols; fabricate welding assemblies using arc and gas welding processes
- Exhibit a working knowledge of the application and maintenance of pumps, valves, piping, seals and ancillary equipment
- Effectively use manufacturer manuals to build, rebuild and maintain equipment to specifications
- Knowledge of basic electric/electronic theory and electrical codes, fuses, circuit breakers, capacitors, resistors, thermostats, limit switches and perform diagnostic testing techniques
- Select and install power transmission components on conveyors and other material handling equipment.
- Have a basic understanding of lubrication and the properties of lubricants
- Communicate effectively in written and oral formats using traditional or personal computer techniques such as word processing, e-mail, spread sheets or the Internet

Upon Graduation

- Create, read, and interpret mechanical flow diagrams and use AutoCAD for isometric drawings.
- Set up and use optical levels and transits
- Perform maintenance tasks involving hydraulic and pneumatic systems components
- Efficiently repair and overhaul pumps, compressors and turbines as specified by maintenance procedures to the standards recommended by the equipment manuals
- Knowledge of industrial materials and metallurgy (ex.) production and classification of metals, corrosion and failure analysis, basic effects of welding and heat treatment
- Knowledge of Breakdown, Preventative, Predictive and Proactive maintenance programs
- Basic understanding of oil analysis, NDE, vibration analysis and machinery balancing
- Safely operate and interpret readings from electronic measuring devices found in industry
- Effectively operate vibration analysis hardware and software to measure, record and analyze basic vibration fault conditions and to perform a single plane balancing exercise
- Able to assist with maintenance project tasks as applied to industrial equipment

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