PURSUE A CAREER IN
WELDING TECHNOLOGY

Northampton Community College
northampton.edu

New & Improved Technology-Enhanced Welding Diploma

The demand for well-trained welding technicians who can fabricate and read blueprints is growing rapidly in the Lehigh Valley. NCC's new and improved Welding Fundamentals Specialized Diploma allows students to acquire industry recognized skills and the basic theoretical knowledge to be able to weld safely and effectively. All welding credits provide a pathway to employment or entry to the two-year AAS degree. A welding certificate may be completed in as few as three semesters.

Recent (Summer 2015) job listings in the Lehigh Valley include:

- Tradesmen International
- The Rose Corporation
- Trillium Construction Services
- Fronti Fabrications
- S&W Metal Products
- FIBA Technologies
- KB Systems, Inc.
- Myers Power Products, Inc.
- Clemens Food Group
- Lineage Logistics
- REEB Millwork Corporation

STUDENT LEARNING OUTCOMES

Graduates of the program will

- Demonstrate the proper use of Gas Metal Arc Welding (GMAW) in short circuit and spray transfer modes, Flux Cored Arc Welding (FCAW), and Submerged Arc Welding (SAW) equipment
- Produce flat position padding and horizontal position tee joint fillet type welds with the GMAW, FCAW, and SAW processes that consistently meet the requirements of the American Welding Society
- Identify common GMAW, FCAW, and SAW discontinuities, explain what causes their occurrence and how they negatively impact the weld
- Demonstrate the proper use of Gas Tungsten Arc Welding (GTAW) and Plasma Arc Cutting (PAC) equipment
- Identify common GTAW discontinuities; explain what causes their occurrence and how they negatively impact the quality of the weld
- Produce flat position padding with Torch Brazing (TB)

FOR MORE INFORMATION, CONTACT:
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Visit northampton.edu and select "Academic Programs" from the home page, or visit pathcareers.org

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WELDING FUNDAMENTALS SPECIALIZED DIPLOMA PROGRAM COURSES DESCRIPTIONS

EMEC117 – Industrial Rigging (1 Credit)

The course provides basic rigging skills required for installation, setting or moving of industrial equipment and the use of ladders and scaffolding. This introduction stresses safe application of rigging techniques, the use of various devices in equipment installation, alignment, lifting and the calculation of load, center of gravity and proper material handling.

EMEC 118 – Hand and Power Tools (1 credit)

This course covers proper selection, safe use, care and maintenance of both hand and power tools.

ENGG117 – Technical Drawing and Specifications (3 Credits)

Interpreting and sketching engineering drawings and specifications; multi-view projection, dimensioning, sectioning, geometric dimensioning and tolerancing; working drawings, pictorials; introduction to electrical, electronics, tooling, weld, and plastics drawing.

OSAH100 – Industry Outreach Safety Education (1 Credit)

This course is based on the 10-hour Occupational Safety and Health Administration's General Industry and Construction Industry Outreach Training Program.

WELD105 – Introduction to Welding Processes (5 Credits)

This course covers the technical concepts, various techniques and position, defect analysis, and safety practices in welding. Hands-on experience welding using shielded metal arc welding (SMAW) in all positions and cutting steel using oxy-fuel cutting apparatus. Technical concepts include code information pertinent to welder certification per ANSI/AWS D1.1 (Structural Welding-Steel).

WELD110 – Introduction to Pipe Welding Processes (3 Credits)

An introduction to the pipe welding process using Shielded Metal Arc Welding (SMAW) in the 2G, 5G,& 6G positions of grooved joints on pipe with and/or without the use of backup material on steel. The emphasis on defect prevention, weld analysis, techniques, problem solving, and code information pertinent to certification will be stressed throughout the course.

WELD123 – Advance Plate Welding (5 Credits)

Skill development in Shielded Metal Arc Welding (SMAW) using all position grooved joints on plate with and without the use of backup material on steel; emphasis on defect prevention, weld analysis techniques, problem solving, skill development and code information pertinent to certification.

WELD125 – GTAW and Semiautomatic Welding Processes (5 Credits)

This course covers the advanced technical information and experience in Gas Tungsten Arc Welding (GTAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), Submerged Arc Welding (SAW) and cutting processes using standard and programmable equipment, along with Torch Brazing (TB); problem solving; defect analysis; troubleshooting equipment.

WELD135 – Welding Fabrication and Symbols (2 Credits)

This course covers reading welding and structural drawings which includes interpreting symbols on welding details. Students will also develop fabrication skills including basic layout, measuring, and utilization of various welding processes.

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