

Welding

The Career

Welders require a vast skill set to compete in today's competitive job market, and the demand for sophisticated, well-trained welders is very strong. Today's welders need to be proficient in blueprint reading, estimating, layout, fixturing, and automated welding processes such as robotics. Skilled welders generally plan their work by using drawings or specifications, or analyzing damaged metal. They select appropriate welding equipment for the job and examine welds to determine whether they meet standards and set specifications.

Average starting salary: \$30,950

Source: This information is based on the 2007 Dunwoody Employment Report

The Program

The Welding program provides students with the skills and safety practices to perform various types of welding and cutting including oxyacetylene, shielded metal arc, gas metal arc and gas tungsten arc. Students will also learn the fundamentals of blueprint reading, welding standards and fabrication.

Program Length

Students earn a Dunwoody Certificate after three quarters. Students with previous training or experience in welding may arrange to take selected courses within the program.

Applying to Dunwoody is easy

To apply online, visit dunwoody.edu. Or, to speak with a Dunwoody Admissions representative, call 612-374-5800 or 800-292-4652.

Dunwoody's Admissions team is committed to working with you to ease and simplify the admissions process and provide all the necessary information regarding our academic programs, degree opportunities, financial aid, expectations and everything else that enters into such an important decision.

Other exciting Dunwoody Robotics and Manufacturing Technology programs and degree options are available. Visit dunwoody.edu for complete details.



Certificate Requirements

| | |
|---------|-----------------------------------|
| WTEC110 | Weld Print Reading |
| WTEC111 | Introduction to Welding |
| WTEC112 | Introduction to Welding Lab |
| WTEC120 | Welding Processes & Layout |
| WTEC121 | Intermediate Welding |
| WTEC122 | Intermediate Welding Lab |
| WTEC130 | Welding Applications |
| WTEC131 | Advanced Welding |
| WTEC132 | Advanced Welding Lab |
| COMM100 | Communication Theory and Practice |
| COMM101 | Electronic Communications |
| GSCI191 | General Science Topics I |
| MATH104 | Applications for Technology |
| SOC191 | Social Behavioral Topics I |



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Dunwoody's 2+2 concept means every graduate of a Dunwoody two-year associate's degree program is qualified to be admitted into one of our breakthrough bachelor's degree programs if they would like to continue their education.

Welding

Course Descriptions

WTEC110 - Weld Print Reading

This course provides principles and concepts required to interpret graphical documents for the welding industry. It includes the interpretation of drawing standards, visualizing the solid object, auxiliary and section views, meaning of notes, symbols, dimensions and technical math to solve problems.

WTEC111 - Introduction to Welding

This course provides an introduction to the theory and practice of welding. It includes the study of components and practical application of welding and cutting equipment on carbon steels. There is an emphasis on personal and equipment safety. The following processes are covered: Oxyacetylene Welding (OAW), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and Gas Tungsten Arc Welding (GTAW).

WTEC112 - Introduction to Welding Lab

This course provides the practical hands-on skills required for the welding industry. Fabrication of standard joint designs is performed on various thicknesses of carbon steel plate. The use of oxyacetylene welding (OAW), stick (SMAW), wire feed (GMAW), and tungsten inert gas (GTAW) on mild steel is introduced. Students learn the setup and troubleshooting of welding equipment and applications.

WTEC120 - Welding Processes & Layout

This course focuses on related processes and layout for fabrication. Not all processes can be developed in detail. This course will provide additional knowledge for your future career. The course topics include: welding joint design, welding symbols, fabrication, welding metallurgy, the weldability of metals, soldering, brazing, and braze welding.

WTEC121 - Intermediate Welding

This course continues the development of welding skills at the intermediate level. Students are introduced to plasma arc cutting (PAC). The studies include proper SMAW electrode selection for the application and fabrication of various welded joint configurations for final assembly. Problems with the setup and application of tungsten electrodes, distortion, expansion and contraction are discussed. Students learn to recognize various alloys and how to setup equipment for proper operation. There is an emphasis on personal and equipment safety.

WTEC122 - Intermediate Welding Lab

This course continues the practical hands-on skills required for the welding industry. Develop skills in OAW in various positions. Prototype parts are built including freehand cutting and beveling, and machine cutting of carbon steel components. Perform SMAW in all positions with cellulose and low-hydrogen electrodes including single- and multiple-pass welds on carbon steel. Practice GMAW with short-circuit, spray-arc, and pulsed-arc transfers on ferrous and nonferrous metals in all positions, with fabrication of welded joint designs used in the industry. Develop GTA welding on nonferrous metals in all positions, including pulsed GTAW.

WTEC130 - Welding Applications

This course focuses on welding applications. There are many topics that do not fit into a welding skill format. This course will provide additional knowledge for your future career. The course topics include: welding of pipe, welding codes, standards, costs, testing and inspection of welds, welder certification, welding automation and robotics.

WTEC131 - Advanced Welding

This course continues the development of welding skills at the advanced level. Welded joint designs and test specimens are fabricated and tested using industry standards. Problems with distortion, expansion and contraction for nonferrous alloys and the choice of electrode for a specific application are discussed. Students learn to weld on ferrous and nonferrous metals on pipe and out of position applications. Several different current controls are introduced. The shop estimation and fabrication process is introduced into lab projects. There is an emphasis on personal and equipment safety.

WTEC132 - Advanced Welding Lab

This course continues the practical hands-on skills required for the welding industry. Students are introduced to flux cored arc welding (FCAW) with shielding gas and self-shielded electrodes along with submerged arc welding (SAW). Students will apply the layout, estimation, and fabrication steps of welding to several projects. Project marked up prints, pricing of materials and labor costs, and the cost of consumable items will be included in determining bottom-line profits. The actual fabrication of welded projects will utilize the various types of welding.