Grayson College Course Catalog

Overview

The Welding Program prepares students to understand and utilize most of the basic welding processes to join such metals as carbon, aluminum, and stainless steel, which will provide them with the information and training to step directly into employment. The program will also prepare students for many types of employment related to welding, such as engineering, quality control, manufacturing technician, etc.

Grayson College offers an Associate of Applied Science degree and two certificates of completion that train students in **Combination Welding** and **Structural Welding**.

Many of the Welding courses may be taken for non-credit through the College's Continuing Education division. Classes are available on the Main Campus and the South Campus.

Course Requirements

The Associate Degree, the Structural Welder Certificate and the Combination Welder Certificate require a High School Diploma or equivalent. The Associate of Applied Science Degree requires that TSI requirements are met.

Capstone Experience

Graduation with the Associate of Applied Science Degree in Welding or the completion of the Combination or Structural Welding Certificate requires successful completion of a Comprehensive Exit Exam.

Local Employers

ACS, B-Line, Caterpillar, Champion Cooler Custom Bodies, Dutec, Magna-Fab, Mueller Construction, Progress Rail, Plyler Construction, Weld-Co

AAS Degree Requirements

Associate of Applied Science Degree - Welding Technology

Subject	Semester Hours
WLDG 1421 (Introduction to Welding Fundamentals)	4
WLDG 1428 (Introduction to Shielded Metal Arc Welding)	4
DFTG 1309 (Basic Computer-Aided Drafting)	3
MATH 1332 (Contemporary Mathematics)	3
WLDG 1457 (Intermediate Shielded Metal Arc Welding)	4
WLDG 1430 (Introduction to Gas Metal Arc)	4
*Life, Phil, Culture/Creative Arts Core	3
BUSI 2309 (Small Business Management)	3
WLDG 1434 (Introduction to Gas Tungsten Arc Welding)	4
DFTG 1425 (Blueprint Reading)	3
WLDG 2447 (Advanced Gas Metal Arc Welding)	4
ENGL 1301 (Composition I)	3
*Social & Behavioral Science	3
WLDG 2451 (Advanced Gas Tungsten Arc Welding)	4
WLDG 2406 (Intermediate Pipe Welding)	4
SPCH 1321 (Business & Professional Communication)	3
ELPT 1311 (Basic Electrical Theory)	3
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Capstone Experience: All students must complete the capstone requirement: successful completion of a comprehensive exit exam prior to graduation.

*Please review your Student Planner or contact your Student Success Coach/Faculty Advisor to review which courses may be used to fill this degree requirement.

Certificate Degree Requirements

Welding/Combination Welder - Certificate

Subject	Semester Hours
WLDG 1421 (Introduction to Welding Fundamentals)	4
WLDG 1428 (Introduction to Shielded Metal Arc Welding)	4
WLDG 1457 (Intermediate Shielded Metal Arc Welding)	4
WLDG 1430 (Introduction to Gas Metal Arc Welding)	4
WLDG 1434 (Introduction to Gas Tungsten Arc Welding)	4
WLDG 2406 (Intermediate Pipe Welding)	4
DFTG 1425 (Blueprint Reading)	3
WLDG 2451 (Advanced Gas Tungsten Arc Welding)	4
WLDG 2447 (Advanced Gas Metal Arc Welding)	4
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Capstone Experience: All students must complete the capstone requirement: successful completion of a comprehensive exit exam prior to graduation.

Combination Welder/Small Business Management - Certificate

Subject	Semester Hours
WLDG 1421 (Introduction to Welding Fundamentals)	4
WLDG 1428 (Introduction to Shielded Metal Arc Welding (SMAW))	4
ACNT 1303 (Introduction to Accounting I)	3
WLDG 1457 (Intermediate Shielded Metal Arc Welding (SMAW))	4
WLDG 1430 (Introduction to Gas Metal Arc (MIG) Welding)	4
ACNT 1313 (Computerized Accounting Applications)	3
BMGT 1327 (Principles of Management)	3
WLDG 1434 (Introduction to Gas Tungsten Arc (TIG) Welding)	4
WLDG 2406 (Intermediate Pipe Welding)	4
DFTG 1325 (Blueprint Reading)	3
BUSG 1304 (Financial Literacy)	3
WLDG 2451 (Advanced Gas Tungsten Arc (TIG) Welding)	4
WLDG 2447 (Advanced Gas Metal Arc (MIG) Welding)	4
BUSG 2309 (Small Business Management)	3
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Welding/Structural - Certificate

Subject	Semester Hours
WLDG 1421 (Introduction to Welding Fundamentals)	4
WLDG 1428 (Introduction to Shielded Metal Arc Welding)	4
WLDG 1430 (Introduction to Gas Metal Arc Welding)	4
WLDG 1457 (Intermediate Shielded Metal Arc Welding)	4

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Capstone Experience: All students must complete the capstone requirement: successful completion of a comprehensive exit exam prior to graduation.

WLDG 2406 - Intermediate Pipe Welding

A Comprehensive course on the welding of pipe using shielded metal arc welding (SMAW) and/or other processes. Welds will be done using various positions. Topics covered include electrode selection, equipment setup, and safe shop practices.

Grade Basis: L
Credit hours: 4.0
Lab hours: 2.0

WLDG 1421 - Introduction to Welding Fundamentals

An introduction to the fundamentals of equipment used in oxyacetylene and arc welding including welding and cutting safety, basic oxyacetylene welding and cutting, basic arc welding processes and basic metallurgy.

Grade Basis:
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

WLDG 1428 - Introduction to Shielded Metal Arc Welding (SMAW)

An introduction shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs.Instruction provided in SMAW fillet welds in various positions.

Grade Basis: L
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

WLDG 1430 - Introduction to Gas Metal Arc (MIG) Welding

A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/ equipment. Instruction in various joint designs.

Grade Basis: L
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

WLDG 1434 - Introduction to Gas Tungsten Arc (TIG) Welding

An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment and safe use of tools and equipment. Welding instruction in various positions on joint designs.

Grade Basis: L
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

WLDG 1457 - Intermediate Shielded Metal Arc Welding (SMAW)

A study of the production of various fillets and groove welds. Preparation of specimens for testing in all test positions. Prerequisites; WLDG 1421, Introduction to Welding Fundamentals and WLDG 1428, Introduction to Shielded Metal Arc Welding (SMAW)

Grade Basis: L
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

Prerequisites:

- WLDG 1421 - Introduction to Welding Fundamentals
- WLDG 1428 - Introduction to Shielded Metal Arc Welding (SMAW)

WLDG 2447 - Advanced Gas Metal Arc (MIG) Welding

Advanced topics in GMAW welding, including welding in various positions and directions.

Grade Basis: L
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

Prerequisites:

- WLDG 1430 - Introduction to Gas Metal Arc (MIG) Welding

WLDG 2451 - Advanced Gas Tungsten Arc (TIG) Welding

Advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite: WLDG 1434, Introduction to Gas Tungsten Arc (TIG) Welding.

Grade Basis: L
Credit hours: 4.0
Lecture hours: 2.0
Lab hours: 6.0

Prerequisites:

- WLDG 1434 - Introduction to Gas Tungsten Arc (TIG) Welding

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