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# Welding

## INDU 155 OSHA Safety 10

Reading Placement Test Level: None

Prerequisite: None

Credit Hours: 1

This course will include OSHA standards assuring proper safety techniques for all types of circuits and components.

## WELD 120 Welding Cutting Processes

Reading Placement Test Level: None

Prerequisite: None

Credit Hours: 3

Skills will be developed in oxy-acetylene welding, cutting, and repair. Safety is emphasized. Interpret the safety rules for using Oxy-Acetylene equipment. An extensive study into the technology of systems use in today's field of welding-manufacturing, construction, power/energy, transportation, fabrication, and piping processes. The format is lecture, demonstration, student application, and evaluation.

## WELD 130 Gas Tungsten Arc Welding

Reading Placement Test Level: None

Prerequisite: None

Credit Hours: 3

This course is a lab course designed to give students practical work experience in Gas tungsten Arc Welding (TIG). Students will learn to properly set up and operate TIG welding equipment to weld in all positions on pipe.

## WELD 140 Shielded Metal Arc Welding

Reading Placement Test Level: None

Prerequisite: None

Credit Hours: 3

An extensive study into the technology of systems used in today's field of welding-manufacturing, construction, power/energy, transportation, fabrication and piping processes. The format is lecture, demonstration, student application and evaluation.

## WELD 160 Gas Metal Arc Welding

Reading Placement Test Level: None

Prerequisite: None

Credit Hours: 3

This course is a lab course designed to give students practical work experience in Gas Metal Arc Welding. Students will study the various components of this welding process, will learn to properly set up and operate MIG welding equipment to weld 1G position and produce quality pipe welds.

## WELD 180 Pipe Layout and Blueprint Reading

Reading Placement Test Level: None

Prerequisite: WELD 130 Gas Tungsten Arc Welding, WELD 140 Shielded Metal Arc, WELD 160 Gas Metal Arc Welding

Credit Hours: 3

This course is a lab course is a study of industrial production and fabrication of piping formations and processes. Emphasis is placed on terminology, symbols, and industry standard welding processes. Students will demonstrate the ability to interpret plans and drawings used in industry and the application of fabrication and layout skills.

## WELD 210 Advanced Gas Tungsten Arc Welding

Reading Placement Test Level: None

Prerequisite: WELD 130 Gas Tungsten Arc Welding

Credit Hours: 4

Through classroom and/or lab/shop learning and assessment activities, students in this course will: explain the gas tungsten arc welding process (GTAW); demonstrate the safe and correct set up of the GTAW workstation; relate GTAW electrode and filler metal classifications with base metals and joint criteria; build proper electrode and filler metal selection and use based on metal types

\*Refer to the Placement Testing Procedure 3.22, page 23 \*\* Refer to Course Transfer, page 17

and thicknesses; build pads of weld beads with selected electrodes and filler material in the vertical position; build pads of weld beads with selected electrodes and filler material in the overhead position; perform basic GTAW welds on selected weld joints; and perform visual inspection of GTAW welds.

**WELD 220 Advanced Gas Metal Arc Welding**

Reading Placement Test Level: None

Prerequisite: WELD 160 Gas Metal Arc Welding

Credit Hours: 4

Through classroom and/or shop/lab learning assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation.; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the vertical position; build pads of weld beads with selected electrodes in the overhead position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

**WELD 240 Advanced Shielded and Metal Arc Welding**

Reading Placement Test Level: None

Prerequisite: WELD 140 Shielded Metal Arc Welding

Credit Hours: 4

Through classroom and / or lab/ shop learning and assessment activities, students in this course will: describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct set up of the SMAW workstation; associate SMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thickness; build pads of weld beads with selected electrodes in the vertical position; build pads of weld beads with selected electrodes in the overhead position; perform basic SMAW welds on selected weld joints; and perform visual inspection of welds.

**WELD 260 Specialized Welding**

Reading Placement Test Level: None

Prerequisite: WELD 140 Shielded Metal Arc Welding

Credit Hours: 4

Through classroom and/or lab/shop learning assessment activities, students in this course will: describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct set up of the SMAW workstation; associate SMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thickness; build pads of weld beads with selected electrodes in the vertical position; build pads of weld beads with selected electrodes in the overhead position; perform basic SMAW welds on selected weld joints; and perform visual inspection of welds.

\*Refer to the Placement Testing Procedure 3.22, page 23 \*\* Refer to Course Transfer, page 17