



**Introduction to Welding
Centre for Northern Innovation in Mining**

COURSE OUTLINE

Introduction to Welding

100 HOURS

0 CREDITS

PREPARED BY: _____

DATE: _____

APPROVED BY: _____

DATE: _____

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Yukon University
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Introduction to Welding

PROGRAM DESCRIPTION:

This 100-hour hands-on program provides the theory and skills necessary for graduates to safely begin introductory welding.

ADMISSION REQUIREMENTS:

No pre-requisites

REQUIRED TEXTS AND SUPPLIES:

Students are expected to supply appropriate clothing and steel toe boots.

EVALUATION:

Students will receive a pass or fail based on participation, practical and written assessment in this course.

ATTENDANCE:

Participants are expected to attend each class on time, and ready to participate in class. If it is necessary to miss class, the instructor is to be contacted in advance.

ACADEMIC AND STUDENT CONDUCT:

Information on academic standing and student rights and responsibilities can be found in the current Academic Regulations that are posted on the Student Services/ Admissions & Registration web page.

ELECTRONIC DEVICES:

To minimize distractions for others, cell phones, iPods and other electronic devices must be turned off while students are in class. In an emergency situation, or at the discretion of the instructor, a student may be given permission to use a cell phone.

APPROPRIATE LANGUAGE:

In all areas of the university environment students are responsible to show respect for others; swearing, or language that is discriminatory or derogatory in relation to race, sex, ethnic background, religious beliefs, age and physical condition is not appropriate.

LEARNING OUTCOMES & OBJECTIVES:

Students will learn to operate and maintain oxyacetylene cutting equipment, shielded metal arc welding equipment and plasma cutting systems. Oxyacetylene topics include: safety practices, equipment operation, metal fusion theory, cutting and brazing. Electric arc welding topics include: welding machines, materials, welding positions and machine settings.

Students will be able to:

- Identify hazards involved in welding and demonstrate safe welding practices.
- Identify and describe the basic theory of the Oxy Acetylene Welding (OAW), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Core Arc Welding (FCAW) process.
- Identify and describe the use of all major components of OAW, SMAW, GMAW and FCAW equipment.
- Identify the most common filler metals used in each process.
- Identify the most common groups of metals that are readily welded, i.e. Steel, Aluminum.
- Identify the basic joint configurations and weld types.
- Demonstrate set up and shut down of an OAW, SMAW, GMAW, FCAW systems.
- Demonstrate an understanding of welding parameters, i.e. heat settings, welding angles, travel speed, etc.
- Demonstrate a basic understanding of common welding mistakes and corrective measures.
- Demonstrate basic joint construction techniques and procedures
- Demonstrate an understanding of basic welding terminology.
- Demonstrate the proper use of the most common electrodes used in the S.M.A.W. process.
- Demonstrate the ability to consistently produce a sound weld with both processes.
- Complete shop projects under supervision of instructor.

INSTRUCTOR(S) CREDENTIALS & EXPERIENCE:

- Journeyperson(s) with relevant, current experience in industrial safety, welding.
- Training and experience in instruction and adult education.

UPON COMPLETION:

Successful students will receive a Yukon University certificate of completion.