

# Pre-Employment Welder Certificate



## Description

The Olds College Pre-Employment Welder program prepares the graduate to perform entry level welding of metals in the repair, maintenance, fabricating or manufacturing of a wide variety of metal equipment and components. The program also focuses on workplace fundamentals and occupational health and safety training. This program is the equivalent to the technical training of first year apprentice.

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Employ current Occupational Health and Safety and industry standards and procedures in the workplace.
2. Communicate in a professional manner with industry associates.
3. Demonstrate employability skills and professional conduct.
4. Demonstrate technical workplace skills in an industry-related learning environment.
5. Demonstrate a working knowledge of the welding equipment involved with the various welding procedures.
6. Apply a working knowledge of mathematical calculations pertaining to the welding trade.
7. Perform assigned tasks in accordance with quality and production standards required by industry.
8. Demonstrate skills in the fusing of metals using prescribed welding applications.
9. Demonstrate a working knowledge of metals, arc electrodes, welding gases, and gas welding filler rods and recognize defective welds; know the cause and proper procedure for the repair of the defective area.

## Requirements:

### Semester 1

		Course Credits
		(Total Credits:15)
<b>PEW 1001</b>	<b>Workplace Safety and Tools (2-2-0 hrs)</b>	<b>3</b>

Students will study the legislation and practices to ensure a safe workplace in the trade. They will also learn how to use personal protective equipment and demonstrate safe practices in lifting operations, as well as describe the safety practices for hazardous materials and fire protection. Also, students will learn to apply communication skills in an industry context. They will learn to use common materials as well as hand, shop, and power tools and measuring tools common to the trade. Metal cutting and heating operations safely using oxyacetylene equipment will also be introduced.

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<b>PEW</b>	<b>1002</b>	<b>Welding Technology and Properties of Metals (3-2-0 hrs)</b>	<b>3</b>
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This course focuses on an introduction to theories relevant to today's welding equipment. Covered topics are electrical concepts, machine design and operation. Students will also practice reading and interpreting technical drawings. In this class, students will also identify joints, weld types and differentiate types of metals and their characteristics. Demonstrations on methods of controlling distortion while welding as well as hard facing of steel will also be involved.

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<b>PEW</b>	<b>1003</b>	<b>Wire Feed Welding (3-2-0 hrs)</b>	<b>3</b>
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In this class, students will be introduced to gMAW wire feed processes. Students will be introduced to various machines, designs and other materials throughout the training process.

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<b>PEW</b>	<b>1004</b>	<b>Alternate Welding Techniques (3-3.5-0 hrs)</b>	<b>3</b>
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In this class, students will be introduced to additional wire process operations including Flux Core Arc Welding, Metal Core Arc Welding. Various processes will be discussed and practiced through the training process.

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<b>PEW</b>	<b>1005</b>	<b>Trade Math (1-2-0 hrs)</b>	<b>3</b>
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In this course students will learn to solve mathematical problems directly related to the welding trade. Mathematical operations involving fractions, decimals, geometric formulas, percentages and ratios will be used throughout the course as they pertain to the trade.

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#### **Graduation Requirements**

Completion of 15 Credits  
Completion of all required courses and credits as per Program of Study  
Cumulative program G.P.A. of 2.00 or better

#### **Changes to this Program**

Every effort has been made to ensure that information in this program is accurate at the time of publication. The College reserves the right to change programs if it becomes necessary so that program content remains relevant. In such cases, Olds College will provide clear and timely notice of the changes.

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