**Eddyville Charter School CAREER AND TECHNICAL EDUCATION**

 **Fall and Spring Semester**

**SYLLABUS**

**COURSE TITLE: Welding** ½ Credit each semester

**Instructor Phone # Email**

Greg Wood 541-875-2942 greg.wood@lincoln.k12.or.us

**Course Description**

Welding is comprised of 4 semesters of coursework that takes students from basic welding principles to advanced skills. Students begin with Welding 1 (first semester) where they work individually and in groups to learn basic welding skills. Welding 2 takes them through the process of designing and building student chosen projects and learning the Plasma table. Welding 3 allows students to learn the process of selling projects to customers. Woodworking 4 is a self-guided course where instructor guidance is on an as needed basis. Concepts in safety, machine set up, machine care, basic math, trade vocabulary, hand and power tools, interpreting shop drawings, manufacturing practices, communication skills, planning, and design techniques are examined in each course.

**Prerequisites:** Must complete courses semesters in order :1-4

**Recommended Tools, Equipment and Supplies:**

Calculator, pencils, paper & shop binder

**General Course Objectives**

Upon completing this course you will be able to:

* Demonstrate and apply appropriate safety practices in the welding shop
* Demonstrate competency in basic math procedures related to welding
* Demonstrate ability to interpret verbal and written information.
* Communicate effectively in different on the job situations.
* Demonstrate critical thinking and problem solving skills.
* Demonstrate effective relationship skills with peers and teachers.
* Demonstrate appropriate teamwork and leadership skills.
* Demonstrate knowledge of welding hand and power tools
* Demonstrate ability to layout, determine cost, and build a project.

**Methods of Instruction**

Lecture, Discussion, Lab, Peer Coaching, Demonstrations and various innovative in-class activities

**Grading**

Your grade is based on timely and accurate completion of class assignments, performance on verbal and written evaluations, and the final exam.

Notebook 20%

Safety Tests 10%

Class Projects 60%

Final Exam 10%

**Outline by Major Topics**

**Safety**

* General Safety
* Personal Safety
* Machine Safety

**Hand Tools**

* Categories
* Identification
* Safe operation

**Machines**

* Identification
* Set up and Safe Operation

**Interpreting Drawings**

* Sketching
* Working Drawings
* Scale
* Materials and Cut Lists
* Legends
* Symbols

**Basic Math**

* Addition
* Subtraction
* Multiplication
* Division
* Fractions
* Converting Fractions to Decimal
* Converting Decimals to Fractions
* Formulas
* Measurement

**Specific Secondary Wood Topics**

* Planning & Design
* How to Select and Identify Materials
* Wood Technology
* Sanding Techniques
* Finishes and Finishing Techniques
* Wood Joints
* Gluing & Clamping
* Grains & Relationship to Machining Processes
* Assembly Techniques & Mechanical Fasteners
* Man Made Materials
* Tool/Machine Selection & Care
* Trade Vocabulary
* Trade Occupations