Beginning Welding/Drafting Semester Syllabus

Silverton High School
1456 Pine Street
Silverton,OR 97381

Mr. Towery
Agriculture Instructor-FFA Advisor
towery_scott@silverfalls.k12.or.us
(503) 873-6331 ext. 3792

COURSE OBJECTIVES

The course will: emphasize how to safely use welding equipment, machines, and power tools through demonstration of welding processes. This course will also incorporate beginning engineering drafting skills.

The student will: learn and demonstrate different welding processes SMAW, GMAW, GTAW and OAW along with developing welding techniques, welding in different positions with different thickness of metal and cutting procedures used in metal fabrication. In regards to safety, all students will be required to pass a written safety test on general shop safety and machinery. The student will also sign a safety contract which stresses the importance of proper conduct while in the metal shop.

Requirements:
All students must complete the following requirements before beginning to make a project:

1. Pass all safety tests.
2. Turn in a student safety contract.
3. Demonstrate machinery knowledge before beginning a project.
4. Wear safety glasses and observe all safety procedures while in the shop area.

Grades:
Grades will be earned with the following:

90%-100%=A; 80%-89%=B; 70%-79%=C; 60%-69%=D; < 59%=F

Points will be available in the following categories:

Academic (tests, projects, demonstrations)	75%
Personal Management (safety, clean-up, notebooks, record keeping)	25%

Course Guidelines:

1. **Attend regularly and on time**
2. **Respect the rights of others, don't be distracting**
3. **If absent for any reason, the student is responsible for all make up work**
4. **Bring writing utensils and paper**
5. **Dress appropriately for shop work**
6. **Prepare to purchase safety glasses and gloves**

FFA:
Every student in an agricultural sciences course is able to be an FFA member. FFA is an intracurricular part of agricultural education, and provides numerous opportunities for applying classroom learning in the real-world. Every year Silverton FFA members travel the state and even the nation participating in leadership development, competing with applied career skills, and getting the experience that will make them successful after high school. In addition, FFA members are eligible for literally millions of dollars yearly in scholarships, including several thousand dollars awarded by our local FFA Alumni. Participation in FFA activities is worth up to 10% of extra credit per semester.

Student Expectations:

Be Safe!	Be Ready to Learn!
Be Respectful!	Work Together!
Be Responsible!	Seek Excellence!

Student Name: _____ Course: Beginning Welding

Assignment 1: Student and Parent Signatures

I have read and understand the expectations and requirements for being part of this course and will follow them in order to successfully complete this class.

_____	_____	_____
Student Signature	**Parent Signature**	**Date**

Communication:

Email makes it very easy to communicate between teachers and parents. If you have an email address please put it down below. This email will be shared with no other group or person and will only be used to provide information about upcoming activities or opportunities in the CTE program. If there is a need for more urgent contact you will be called.

Parent Email Address:

_____

Course Outline

Weeks	Topics
Weeks 1-3	Safety • General shop • GMAW • SMAW • OAW • Equipment
Quiz over safety. Students must pass with 85% accuracy.	
Weeks 4-7	Discuss the SMAW process/procedure • Machine set-up • Amperage information • Striking an arc • Bead characteristics • Welding joints butt, lap, tee, corner and edge • Welding positions 1G/F, 2G/F, 3G/F and 4G/F • Welding troubleshooting porosity, arc blow, spatter, penetration
Quiz will be given at the end of week 7. Quiz will cover SMAW process in which students will demonstrate with welds using different welding joints and welding positions.	
Weeks 8-10	Discuss the GMAW process/procedure • Machine set-up • GMAW process control settings • Holding and positioning welding gun • Bead characteristics • Welding joints butt, lap, tee, corner and tee • Welding positions 1G/F, 2G/F, 3G/F and 4G/F • Welding troubleshooting porosity, arc blow, spatter, penetration
Quiz will be given at the end of week 10. Quiz will cover GMAW process in which students will demonstrate with welds using different welding joints and welding positions.	
Weeks 11-13	Discuss the OAW welding and cutting process/procedure • Torch and cylinder set-up • OAW and cutting regulator settings • Holding and positioning welding and cutting torch • Bead characteristics with rod and without • Welding joints butt, lap, and tee • Welding positions 1G/F, 2G/F • Welding and cutting troubleshooting penetration, settings
Quiz will be given at the end of week 13. Quiz will cover OAW/cutting process in which students will demonstrate with welds and cuts using different welding joints, welding/cutting positions.	

Weeks 14-15	Discuss the plasma cutting process/procedure • Machine set-up • Plasma control settings • Holding and positioning of gun • Cutting characteristics • Cutting metal 18 gauge up to $\frac{1}{4}$ thick
Cutting exercise given at the end of week 14. Students will cut out their initials using the plasma cutting process.	
Week 16-18	Discuss the process of fabrication • Bill of materials • Technical drawing of a project • Measurements • Planning of a project • Finished project
Test will be given at the end of week 17. Test will cover SMAW/GMAW and OA cutting processes in which students will demonstrate with welds and cuts building a 3" x 3" x 3" cube (SMAW), 2" x 6 " half cube (GMAW) and (OA Cutting)	