Power Structure and Technology Foundations
Course Syllabus

Lexington High School
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Class Purpose

The purpose of the course is designed to provide students with introductory level experiences in selected major areas of agricultural mechanics technology which may include woodworking, agricultural structures, electrical wiring, introductory arc welding, oxy/fuel cutting and welding processes, and power equipment operation and maintenance. Learning activities include information, skill development, and problem solving. The class is also a great opportunity to learn, strengthen and apply knowledge in the following areas:

- Engineering
- Problem solving
- General mechanics principles
- Tool use - common and no common tools
- Physics
- Chemistry
- Math
- Shop safety
- Communication skills

Objectives

1. General Safety Practices and Rules
2. Understand and use Units of Measurements
3. Select appropriate measuring tools
4. Classify and Identify hand tools
5. Select appropriate hand tools for different tasks
6. Demonstrate Safe and proper use of hand tools
7. Explain the different methods of classifying power tools

8. Identify and follow safety instructions
9. Select and use appropriate power tools
10. Explain the arch welding process
11. Describe various joint types
12. Weld a practice pad using SMAW
13. Processes of oxyfuel welding and cutting
14. Safety handle and store gas cylinders
15. Safety work with oxyfuel equipment
16. Weld with and oxyacetylene torch

Learning Units

1. General Safety Practices and Rules
2. Personal Protective Equipment when welding
3. Eye protection when welding
4. Main hazards in the lab
5. Proper handling and Storing of material
6. Classify and Identify hand tools
7. Hand tools for different tasks
8. Safe and proper use of hand tools.
9. Types of fasteners, adhesives and finishes
10. Working Drawings of a product
11. Select the proper materials and tools
12. Explain the arch welding process
13. Describe various joint types
14. Weld a practice pad using SMAW
15. Processes of oxyfuel welding and cutting
16. Safety handle and store gas cylinders
17. Safety work with oxyfuel equipment
18. Weld with and oxyacetylene torch

Resources

- Agricultural Mechanics and Technology Systems

Grading

Tests/Quizzes (**50%)** + Projects (**30%)** + Homework/Activities (**20%) = 100%**

Quarter 1 (**45%**) + Quarter 2 (**45%**) + Semester Final (**10%**) = **100%**

Late Work

All assignments have a due date. I expect all work to be turned in on time.
20 points will be deducted for every day it is late. After 4 days it will be counted as a "0.0"