Power Structure and Technology Foundations
Course Syllabus
2026-2027

Student's Name: _____

Lexington High School
Instructor: Mr. Marlon Leiva
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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. Safety and Developing - Safe work habits
2. Measuring and Marking Tools
3. Hand tools for different tasks
4. Power tools for different tasks
5. Types of fasteners, adhesives and finishes
6. Woodworking project
7. The arch welding process
8. Micro Welding Project
9. Working Drawings of a product

10. Building a Bridge Project
11. CO2 Race
12. Launching Rocket Project

Learning Units

1. Safety and Developing - Safe work habits
2. Measuring and Marking Tools
3. Hand tools for different tasks
4. Power tools for different tasks
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Resources

- Agricultural Mechanics and Technology Systems / Other printed materials

Grading

Tests (**25%**) + Quizzes (**20%**) + Projects (**40%)** + Homework/Activities (**15%) = 100%**

Quarter 1 (**50%**) + Quarter 2 (**50%**) **= 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%"

Misconduct

Misbehavior in class, failure to participate, or refusal to work on class activities will be penalized in accordance with school regulations and may result in a reduction of grades. Please note that improper use of the equipment may result in damage, requiring the student to replace the equipment or cover its cost.

Classroom Expectations and Procedures:

- Come to class prepared (Charged chromebook, pencil, paper, etc.)
- Respect one another
- Listen wholeheartedly when others are speaking
- Speak with good purpose
- Be accountable for your actions
- Learn from failure

Beginning of Class:

- Place phones in backpack (No tolerance policy)
- Find your seat, take out supplies needed for class (CHARGED COMPUTER, pencil, etc.)
- When finished, sit quietly and wait for further instructions

During class:

- Actively participate in class
- Keep order
- Be respectful

End of Class:

- Clean up your area (paper on floor around you, your supplies, put extension cords away, etc.)
- Sit IN seat until the bell rings. DO NOT LINE UP AT THE DOOR!!!!
- Push in your chair and leave the room quietly

I acknowledge the course content to be covered in my child's class: _____, and I clearly understand how the assessment will be conducted. I commit to helping my child study and encouraging them to do their best to achieve excellent results in the class.

_____

Signature of parent or guardian

Lexington, August 2026