

Advanced Agricultural Mechanics

COURSE DESCRIPTION

Advanced Agricultural Mechanics – This course builds upon the foundational skills learned in Agricultural Mechanics, providing students with advanced instruction in mechanical systems, welding, fabrication, electrical systems, and equipment maintenance. Students will engage in complex projects that require problem-solving, precision measurement, and critical thinking to design, construct, and repair agricultural structures and equipment.

Emphasis will be placed on the safe and efficient use of tools and equipment, advanced welding techniques (including MIG, TIG, and plasma cutting), and interpretation of technical drawings and blueprints. Students will also explore hydraulics, electrical wiring, and power systems used in modern agricultural operations.

Projects and laboratory experiences will focus on real-world applications, including fabrication, restoration, and project management. Students are expected to demonstrate leadership, teamwork, and workplace readiness skills essential to success in agricultural and technical careers.

Advanced Agricultural Mechanics is designed for students who have demonstrated strong skills and understanding in basic agricultural mechanics and are ready for in-depth study in fabrication, electrical systems, and advanced repair techniques.

Semester 1	Semester 2
• Advanced Shop and Equipment Safety	• Agricultural Power Systems
• Blueprint Reading and Project Planning	• Hydraulic and Pneumatic Systems
• Advanced Welding Techniques (MIG, Stick, Plasma Cutting)	• Electrical Systems and Wiring Projects
• Metal Fabrication and Construction	• Equipment Troubleshooting and Diagnostics
• Trailer Design, Fabrication, and Maintenance	• Advanced Project Fabrication and Assembly
• Precision Measurement and Quality Control	• Project Management and Cost Estimation
• Fabrication Project	• Fabrication Project

