



Steeleville High School Agriculture Department
Basic Agricultural Mechanics
6th



Course Syllabus and Outline

Instructor: Mrs. McKinnies

Email: smckinnies@steeleville138.org

Pre Requisite: Introduction to Agriculture

Level: 9, 10, 11, 12

Credit: 1

Basic Agricultural Mechanics is an exploratory course to the agriculture mechanics industry. Basic Agricultural Mechanics provides students a practical hands-on learning experience that prepares students for upper-level agriculture courses. Therefore, the course is designed for freshman and sophomore students but exceptions will occasionally be made. **This course is one year in length** and upon successful completion of this course with a D or higher, 1 graduation credit will be awarded.

Course Description

Basic Agricultural Mechanics is an introductory course that explores a wide variety of mechanical processes. Students will use scientific and mathematical applications through relevant mechanical topics. In addition, students will complete numerous lab-based and project-based activities that will give students the opportunity to develop an understanding of the scientific process and increase hand-eye coordination and motor skills. Areas of study in this course include careers in agriculture mechanics, mechanical safety & hazards, and hand & power tools. Topic clusters in this course include an introduction to agriculture mechanics, electrical systems, small engines, drafting, wood construction, and welding & sheet metals. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration, and reinforcement of academic concepts.

Course Objectives/Goals

- Students will explore potential careers of the agricultural mechanics industry.
- Students will demonstrate safety practices while in the shop.
- Students will be proficient in using hand and power tools.
- Students will understand and assemble electrical schematics.
- Students will explore small engines and their working components.
- Students will be exposed to metal work and will demonstrate their working skills by successfully welding beads.
- Students will demonstrate construction skills by systematically planning and operating equipment for a construction project.
- Students will explain the impact of technology in the agricultural and mechanical industries.

Student Expectations

It is important that students in this class keep an open mind and respect the differences in student ability, backgrounds and beliefs. All students are expected to come to class on time, be prepared, and participate on a daily basis. Students will be expected to follow all rules listed and described in the Steeleville High School Student Handbook. It is expected that students wear appropriate attire (safety glasses, closed-toe shoes, protective clothing, etc.) during shop work. Students will be expected to arrive daily with a writing utensil, notepad, and calculator.

Online Learning Expectations for Students Choosing to Remote Learn

- Students are required to sign in daily and participate in classes from 8:13 – 2:30 p.m.
- Teachers will be engaging with in-person students as well as remote learners throughout the day.
- Daily/hourly attendance will be taken and if a student does not sign in and participate he/she will be counted absent and fall under attendance guidelines as outlined in the handbook.
- Parents must be available to communicate with administration and teachers via email or telephone; this is on an as-needed basis.
- Teachers are expected to use Google Meets to livestream their classes with the camera not facing students

Students Quarantined

- Students will participate in remote learning if medically able
- Paper copies will be sent home as needed

Teaching Methods

Basic Agricultural Mechanics is a course taught through a wide variety of teaching methods, but with a dominant focus through hands-on learning. Students will learn through class lecture, small group discussion, class debate, laboratory exercises, video, readings, independent study, games, guest speakers, and both individual and group projects.

Assessments

Students will be assessed through regular completion of homework, projects, class participation, laboratories, and Supervised Agriculture Experiences. Quizzes will assess students throughout each unit and a test will be given upon completion of each unit.

Grading Policy

Assignments will vary in points.

The school's standard grading scale will be used in the class

A	89.5% - 100%	B	79.5 – 89.4%	C	69.5% - 79.4%
D	59.5% - 69.4%				

Missed/Late Work

Late homework assignments will automatically be dropped 25% for each day late unless prior arrangements have been made or the missed assignment was due to an excused absence. Missed quizzes or tests due to an unexcused absence will result in a zero. Make-up dates will be allowed for all quizzes and tests missed due to an excused absence.

Academic Honesty

Academic integrity is a vital component for individual success within Steeleville's Agriculture Department. Plagiarism and cheating by any student will result in a zero for the grade of the assignment and will follow punishment described in the student handbooks.

Text

A variety of text material will be given in this course. The primary text material will be MyCaert Agriculture Education State Curriculum readings. Text material will also

include, but is not limited to, various textbook chapters, newspaper clippings, pamphlets, Internet articles, news articles, and short narrative briefs.

Unit 1: What is Agriculture? (First week of school)	
Module 1	Opportunities in FFA
Module 2	Achievement in FFA
Module 3	Leading the FFA Chapter
Module 4	SAE's: Types, Keeping Records, and Implementing
Unit 2: Introduction to Mechanics (Aug)	
Module 5	Identifying Basic Areas of Agricultural Mechanics
Module 6	Exploring Careers in Agricultural Mechanics
Module 7	Identifying Hazards in Agricultural Mechanics
Module 8	Using Personal Safety in Agricultural Mechanics
Unit 3: Drafting (Aug)	
Module 9	Introduction to Drafting
Module 10	Drafting Tools and Processes
Module 11	Planning & Designing Projects
Module 12	Drafting Careers
Unit 4: Land Use (Spring)	
Module 13	Understanding Land Measurement and Legal Descriptions
Module 14	Using Surveying Equipment
Module 15	Land Use CDE In-class learning
Unit 5: Wood Construction (September/ October)	
Module 16	Identifying Electrical Tools and Equipment
Module 17	Using Hand Tools
Module 18	Using Power Tools
Module 19	Construction Fasteners and Hardware
Module 20	Selecting Lumber
Module 21	Hand Tools Project #1
Module 22	Power Tools Project #1
Unit 6: Electricity (November)	
Module 23	Introducing Electricity and Electrical Safety
Module 24	Exploring the Science of Electricity
Module 25	Measuring and Calculating Electricity
Module 26	Wiring Circuits- Project #2
Unit 7: Small Engines (March)	
Module 27	Introduction to small engines

Unit 8: Agricultural Structures (April)	
Module 28	Aquaculture Structures
Module 29	Greenhouse Structures
Module 30	Hydroponics Structures
Module 31	Design an Agricultural Structure
Unit 9: Welding & Sheet Metal Work (January)	
Module 32	Identifying Metals and Their Properties
Module 33	Metal Bending and Fabrication
Module 34	Shielded Metal ARC Welding

**Unit order and module orders are subject to change