

# Power, Structural, and Technical Systems

## Course Overview and Syllabus

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**Grade level:** 9–12

**Prerequisite Courses:** None

**Credits:** 0.5

### Course Description

This semester-length high school course provides students with an understanding of the field of agriculture power and introduces them to concepts associated with producing the food and fiber required to meet today's and tomorrow's needs. Students are given the opportunity to explore agriculture machinery, as well as structures and technological concepts. They also learn about the historical changes in agriculture and how agriculture has changed to meet the needs of the future world population. Students are introduced to machinery, structures, biotechnology, and ethical and professional standards applicable to agriculture power.

### Course Objectives

Throughout the course, you will meet the following goals:

- Identify equipment and skills necessary in agriculture
- Demonstrate an understanding of power equipment operation, maintenance, and safety practices
- Learn about designing, constructing, and maintaining the structures used on farms and for growing crops
- Examine the impact of technologies used on modern farms, including GPS, smartphones, and open data sources

### Student Expectations

This course requires the same level of commitment from you as a traditional classroom course. Throughout the course, you are expected to spend approximately 5–7 hours per week online on:

- Interactive lessons that include a mixture of videos, readings, and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments, including quizzes, tests, and cumulative exams

## Communication

Your teacher will communicate with you regularly through discussions, email, chat, and system announcements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your speaking and listening skills.

## Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Lesson Quizzes	20%
Unit Tests	20%
Cumulative Exams	20%
Assignments	10%
Projects	30%
Additional	0%

## Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

- Unit 1:** Importance of Power, Structural, and Technical Systems
- Unit 2:** Operation and Maintenance of Equipment and Power Systems
- Unit 3:** Sources of Power and Engines and Equipment Efficiency and Powertrain
- Unit 4:** Designing, Constructing, and Maintaining Structural Systems
- Unit 5:** Impact and Use of Technologies in Power and Structural Systems