

Course Title:	Building Systems
Grade(s):	11th/12th

Course Description
This course involves the knowledge and skill application of building systems, including construction safety, electrical, plumbing, masonry, roofing systems, and planning a design of agricultural systems. This class will include "hands-on" laboratory exercises involving the construction of these agricultural systems, as well as repair and maintenance. Emphasis will be on equipment identification, safety procedures, and skill development.
Approved Curricular Materials/Textbook(s)

Unit Title	Unit Description (Include Unit Objectives)	Unit Pacing
Unit 1: Introduction to Building Systems and Shop Safety	This unit will reintroduce students to general shop and equipment safety. Students will: • Demonstrate shop safety procedures • Practice shop clean-up and maintenance protocols • Review safe equipment operation • Identify common building systems and their components • Explore careers within the industry	2 weeks
Unit 2: Roofing Systems	This unit covers the process of properly roofing a structure. Students will: • Compare and contrast architectural and dimensional shingles • Utilize the proper fasteners used in roofing • Properly prepare a roof with roofing felt • Properly apply starter shingles	5 weeks

	• Demonstrate proper shingle installation • Install a ridge cap • Follow roofing codes and regulations	
Unit 3: Electrical Systems	This unit covers electrical systems and how to safely work on them. Students will: • Demonstrate safety protocols when working on electrical systems • Identify components commonly seen within electrical systems and their functions • Properly utilize the tools used on electrical systems • Install electrical circuits according to code • Assess and repair malfunctioning circuits	5 weeks
Unit 4: Plumbing Systems	This unit will cover various types of plumbing utilized within the agriculture industry. Students will: • Identify types of pipes, fittings, and tools used within the plumbing industry • Practice proper cutting, deburring, and gluing procedures for PVC pipe • Practice proper cutting, deburring, preparing, and soldering techniques used with copper pipes • Practice proper cutting, preparing, and fitting for PEX • Safely utilize proper plumbing tools for PVC, copper, and PEX applications	5 weeks
Unit 5: Concrete and Masonry	This unit will cover applications of concrete and masonry within buildings and structures. Students will: • Explore the science of concrete • Utilize concrete and masonry equipment and tools • Properly mix concrete • Apply design principles	3 weeks