

SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
AGR 171S FUNDAMENTALS OF AGRICULTURAL ENGINEERING
3 CREDIT HOURS

COURSE DESCRIPTION

Introduction into the fundamental skills of agricultural power and machinery, agricultural electrification, agricultural structures, skilled trades, and emerging technologies. Two hours of lecture integrated with two hours of lab activities each week. Lab fee.

COURSE GOALS

The student will:

Bloom's Level		Program Outcomes
2	1. Explain the technological advances that have led to modern agriculture.	1
3	2. Implement safe work practices and become familiar with OSHA standards.	3
5	3. Utilize problem solving skills to troubleshoot and solve complex problems.	9
4	4. Analyze the basic concepts of electricity, electrical wiring, and electrical systems.	6
2	5. Develop an understanding of agricultural power equipment and machinery technologies.	6
1	6. Examine different types of agricultural structures and identify their uses in the agricultural industry.	5
1	7. Identify hand tools, power tools, diagnostic tools, surveying equipment, and measuring devices used in agriculture.	11
5	8. Assess the engineering behind the building of modern agricultural production systems and facilities.	5
3	9. Develop basic masonry, carpentry, plumbing, metalworking, and engineering skills.	6
1	10. Examine concepts in emerging technologies utilized in the many areas of agriculture.	11

CORE VALUES

The Core Values are a set of principles that guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

TOPIC OUTLINE

1. Introduction to Agricultural Engineering
2. Safety
3. Electricity
4. Machinery
5. Equipment
6. Hand and Power Tools
7. Diagnostics, Surveying, and Measuring

8. Agricultural Structures
9. Skilled Trades
10. Food, Energy, and Hydrological Systems
11. Problem Solving and Troubleshooting
12. Precision Agriculture
13. Emerging Technology