

Lassen Community College Course Outline

AGR 40 Basic Agricultural Mechanics

3.0 Units

I. Catalog Description

A course is designed to teach basic skills required in a farm shop, which includes, but is not limited to equipment repair, metal work, hydraulics, and farm construction. This course has been approved for hybrid delivery.

Diversity Statement: Our commitment to diversity requires that we strive to eliminate barriers to equity and that we act deliberately to create a safe and inclusive environment where individual and group differences are valued and leveraged for the growth and understanding as an educational community.

Recommended Preparation: Successful completion of ENGL105 or equivalent multiple measures placement.

Transfers to CSU only

17 Hours Lecture, 102 Hours Lab, 34 Hours out of class, 136 Total Hours of Instruction
Scheduled: Fall

II. Coding Information

Repeatability: Not Repeatable, Take 1 Time

Grading Option: Graded or Pass/No Pass Credit

Type: Credit - Degree Applicable

TOP Code: 011600

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

1. Perform hot and cold metal repairs.
2. Demonstrate basic knots and rope splicing in an agriculture setting.

B. Course Objectives

Upon completion of this course the student will be able to:

1. Demonstrate equipment safety
2. Explain hot metal vs cold metal work
3. Explain the need for the use of tools and equipment for facility repair
4. Select the appropriate materials for a given job
5. Demonstrate basic plumbing skills.
6. Demonstrate rope splicing and knots
7. Demonstrate competent use of hand and power tools needed in a farm shop

IV. Course Content

A. Cold Metal

1. Sharpening
2. Tapping and Threading
3. Shaping

B. Construction Materials

1. Metal
2. Wood
3. Plastics
4. Bills of Material

C. Painting

1. Surface Preparation
2. Selection of appropriate paint
3. Application

D. Rope Work

1. Care
2. Splices
3. Knots

E. Farm Wood Work

1. Layout Work
2. Hand Tools
3. Power Tools

F. Hot Metal

1. Bending
2. Welding
3. Cutting
4. Surface Treatments

G. Cement

1. Preparing forms
2. Proper calculation for pouring
3. Proper mixing
4. Types and methods of finishing

H. Plumbing

1. Threading
2. Cutting
3. Layout

I. Electrical

1. Wire a light and switch
2. Repair and replace damaged circuits

V. Assignments

A. Appropriate Reading

“Agricultural Mechanics and Technology Systems” will be a source of course reading and will be supplemented by specific repair manuals and trade magazines.

B. Writing Assignments

Sketches and blueprints detailing repair or fabrication procedures. Lists of materials with specific identification from parts catalogs.

C. Expected Outside Assignments

Researching repair procedure specific to given equipment. General study of repair procedures. Discuss with experienced mechanic's repair procedures.

D. Specific Assignments that Demonstrate Critical Thinking

Students will examine and evaluate projects of various ranches and other sites to assess workmanship and "best method" of task accomplishment.

VI. Methods of Evaluation

Traditional Classroom Evaluation

Term paper (topic choice, thesis statement, outline, bibliography, rough draft, final draft), homework, classroom discussion, essay, journals, lab demonstrations and activities, multiple choice quizzes, and participation.

Hybrid Evaluation

All quizzes and exams will be administered during the in-person class time. Students will be expected to complete online assignments and activities equivalent to in class assignments and activities for the online portion of the course. Electronic communication, both synchronous and asynchronous (chat/forum) will be evaluated for participation and to maintain effective communication between instructor and students.

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Traditional Classroom | <input type="checkbox"/> Correspondence Delivery |
| <input checked="" type="checkbox"/> Hybrid Delivery | <input type="checkbox"/> Online Delivery |

Traditional Classroom Delivery

Lecture, discussion, audio/visual aids, demonstration, group exercises, guest speakers, lab, individualized programs and other as needed.

Hybrid Delivery

Hybrid modality may involve face to face instruction mixed with online instruction. A minimum of 1/3 of instruction, including 100% labs, will be provided face to face. The remaining hours will be taught online through a technology platform as adopted by the district.

VIII. Representative Texts and Supplies

Agricultural Mechanics and Technology Systems *by* J. P. Hancock, Don W. Edgar, Michael L. Pate, Lori A Dyer, W. Brian Hoover, 2022

ISBN: 9798888175484

IX. Discipline/s Assignment

Agricultural Engineering

X. Course Status

Current Status: Active

Original Approval Date: 2/27/1990

Revised By: Brian Wolf

Curriculum/Academic Standards Committee Revision Date: 11/7/2023

Revised for IPR, no change: