

Discipline: Agriculture	Sub-discipline: Mechanized Agriculture
General Course Title: Farm Structures	Min. Units: 3 Semester
Proposed Suffix: L	
<p>Course Description: This is an introductory course in planning and designing various types of farm buildings necessary to agricultural enterprises. Characteristics, types, fabrication techniques and costs of construction materials used in farm buildings are covered. A practical course in building metal, wood or composite frame buildings from planning to finish. Laboratory required.</p>	
Required Prerequisites or Co-Requisites ¹	
Advisories/Recommended Preparation ²	
<p>Course Objectives: <i>At the conclusion of this course, the student should be able to:</i></p> <ul style="list-style-type: none"> • Plan a farmstead and draw plot plans showing all necessary details to scale • Select and evaluate building materials for each segment of the building process • Demonstrate use of common hand tools used in building construction • Demonstrate use of common power tools used in building construction • Measure, square and align building layout of basic farm structures • Read and follow information and details of building construction from a set of pre-selected plans • Identify common fasteners and fastening techniques used in building • Evaluate costs of materials and building structures • Determine foundation types and sizes, column sizes and strength, live and static loads and determine beam sizes and strength • Research new building methods, tools and construction techniques used in farm construction • Demonstrate ability to communicate and work cooperatively with others <p>Develop efficient on-the-job working skills to maximize effort and time during construction</p>	
<p>Course Content:</p> <ol style="list-style-type: none"> 1. Farm and farmstead planning <ol style="list-style-type: none"> a. Resources for planning b. Trends that affect farm building c. Needs common to all farmsteads d. Distribution of utilities e. Dwelling location considerations 2. Floor plans for farm buildings <ol style="list-style-type: none"> a. Production objectives b. Controls provided by buildings c. Plan units d. Patterns of building arrangements 3. Building materials <ol style="list-style-type: none"> a. Wood and wood products b. Concrete and masonry c. Metal and sheet metal d. Fasteners and fittings <p>Farm Structures (Content Continued)</p>	

¹ Prerequisite or co-requisite course need to be validated at the CCC level in accordance with Title 5 regulations; co-requisites for CCCs are the linked courses that must be taken at the same time as the primary or target course.

² Advisories or recommended preparation will not require validation but are recommendations to be considered by the student prior to enrolling.

4. Structural types of designs
 - a. Foundations and footings
 - b. Sub-floors and floors
 - c. Frames and roofs
 - d. Columns and beams

5. Kinds of buildings
 - a. General purpose
 - b. Livestock facilities and barns
 - c. Horse stables
 - d. Poultry houses
 - e. Dairy barns
 - f. Machinery shops and storage

6. Specifications of buildings
 - a. Building plans
 - b. Cost of materials and construction
 - c. Parts of an estimate
 - d. Errors in estimating

7. Construction techniques
 - a. Planning the job - tools and tips
 - b. Layout, squaring and building forms
 - c. Erecting, forming and pouring foundations and slabs
 - d. Pole construction
 - e. Sub-floors, floors and framing
 - f. Ceilings, rafters, sheeting and roofing
 - g. Plumbing, heating and ventilation
 - h. Electrical wiring and lighting

Laboratory Activities: Individual Laboratory Activities are designed to support course objectives.

Methods of Evaluation: Lecture Comprehensive Quizzes and Exams Written Critical Thinking Scenarios Problem Analysis and Solution Research and Term Papers	Methods of Evaluation: Laboratory Laboratory Skill Validation by Observation Laboratory Reports Diagnostics and Problem Solving Laboratory Skill Practicum Certification Exams
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Typical Textbooks, Manuals, or Other Support Materials
Farm Builders Handbook, Lytle

Statewide Articulation: CPSLO-BRAE 231, CSUC-AGET 230, other universities as lower division elective

FDRG Lead Signature: _____ Date: _____

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