

Discipline: Agriculture	Sub-discipline: Plant Science
General Course Title: Irrigation	Min. Units: 3 Semester
Proposed Suffix: L	
<p>Course Description: The principles and practices of California water delivery including: plant-soil-moisture relationships and water movement in the soil; water quality, water law, measurement of water; evaluation of irrigation methods, systems, wells and pumps. 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"> • Describe the importance of irrigation water in agriculture and defend its continued supply. • Describe the many problems facing California agriculture in a period of limited water supply and worsening water quality. • List the consequences of management decisions on this limited resource. • Utilize the most common irrigation terminology. • Differentiate between State vs. Federal water and projects, water vs. irrigation district. • Demonstrate a complete understanding of the soil-plant-water relationship by correctly completing a soil water budget. • Calculate evapotranspiration rates for crops common to California over a complete growing season. • Compare and install all the major water supply systems (i.e. surface, sprinkler, drip, and micros). Surface as well as buried systems. 	
<p>Course Content:</p> <ol style="list-style-type: none"> 1. The Importance of Irrigation Management 2. Irrigation Terms 3. Sources of Irrigation Water <ol style="list-style-type: none"> A. State/federal supply systems B. Irrigation/water districts C. Water laws/rights D. Costs of water (pumps vs. district) 4. Plant-Soil-Water Relationships <ol style="list-style-type: none"> A. Water cycle B. Plant/water relations C. Soil/water relations D. Available soil water E. Evapotranspiration <p>Irrigation (Content Continued)</p> <ol style="list-style-type: none"> 5. Irrigation Water Management <ol style="list-style-type: none"> A. Measuring irrigation water B. Soil moisture deficiency C. Irrigation efficiency 	

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.

- D. Irrigation scheduling
6. Crop Irrigation
- A. Generalized crop curves
 - B. Irrigation practices of specific crops
7. Irrigation Delivery Systems Management and Evaluation
- A. Flood, basin, furrow
 - B. Sprinklers
 - C. Drip
 - D. Micro systems
 - E. Miscellaneous irrigation methods
 - F. Pumps and wells

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 Laboratory Research Projects and Reports Laboratory Skill Practicum Exams
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Typical Textbooks, Manuals, or Other Support Materials
No general text available

Statewide Articulation: CPSLO-BRAE 340, CPP-PLT 232, others as lower division elective

FDRG Lead Signature: _____ Date: _____

Mark E. Bender, PhD CSU Stanislaus

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