

Discipline: Agriculture	Sub-discipline: General Agriculture
General Course Title: California Water	Min. Units: 3 Semester
Proposed Suffix:	
Course Description: This course is an interdisciplinary examination of California's water use and management with an historical emphasis on the politics and conflict arising from water scarcity.	
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 history of California's water development and use • Discuss basic scientific concepts concerned with water and its movement • Identify the critical parts of California's hydrologic system • Classify specific areas of origin for urban, agriculture and environmental water supplies • Analyze the nature and trends of California's water supply and use • Draw a map of California's water containment and distribution system • List and describe the major types, operational and functional aspects of California's water distribution system • Contrast and compare the relationship between California's three primary water users: agriculture, urban, and environment • Examine California's water rights and water law • Assess the effects that current and proposed water-related legislation will have on California residents • Evaluate the impact that current population and land-use trends have on California's water supply and user groups • Collect, sort, analyze, and describe data 	
<p>Course Content:</p> <ol style="list-style-type: none"> 1. General historical development of California water use <ol style="list-style-type: none"> a. Aboriginal waterscape b. Spanish settlement c. American settlement <ol style="list-style-type: none"> (1) Owens Valley (2) Hetch Hetchy (3) Central Valley (4) Miller & Lux d. Urbanization of California 2. Geology of California's hydrologic system <ol style="list-style-type: none"> a. Sierra Nevada b. Central Valley <ol style="list-style-type: none"> (1) Aquifers c. San Francisco Bay-Delta d. Northern California e. Southern California f. Colorado River <p>California Water (Content Continued)</p> <ol style="list-style-type: none"> 3. Water Supply 	

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.

- a. Precipitation rates and distribution
 - b. Ground water
 - (1) Recharge
 - (2) Overdrafts
 - c. Surface water
 - d. Containment and delivery system
 - (1) Distribution system
 - State water project
 - Federal water project
 - Irrigation and water districts
 - (2) Overview and layout of canals and containment system
 - (3) Flood control
 - e. Water users
 - (1) Demand/supply/shortage
 - (2) Agriculture
 - Irrigation methods
 - Processing
 - (3) Environment
 - (4) Urban
 - (5) Industry
 - f. Economics of resource scarcity
4. Water rights in California
- a. Types of water rights
 - (1) Riparian right
 - (2) Appropriate water rights
 - (3) Underground water rights
 - Definition of ground water
 - Ground water storage rights
 - (4) Prescriptive water rights
5. Allocation of water between consumptive and environmental uses
- a. Public trust doctrine
 - b. Law of reasonable use
 - c. Fish and Game Code
6. State Water Resources Control Board (SWRCB)
- a. Definition, role and history of SWRCB
 - b. Water quality control
 - c. Bay-Delta hearings
7. Threatened and endangered species
- a. Federal Endangered Species Act (ESA)
 - b. California Endangered Species Act
 - c. Impact of ESAs on water supplies
8. Water transfers
9. Water conservation
- California Water
(Content Continued)**
10. Conflict
- a. Agriculture-urban environment conflict
 - b. Water and irrigation districts

<ul style="list-style-type: none"> c. North-South California d. San Joaquin Delta 	
<p>11. Current and future issues</p> <ul style="list-style-type: none"> a. Metering water consumption b. Water transfer/sales c. Water planning - Merced process model d. Water salinization e. Water projects f. Current water conservation--Best Management Practices (BPMs) 	
<p>Laboratory Activities: Individual Laboratory Activities are designed to support course objectives.</p>	
<p>Methods of Evaluation: Lecture Comprehensive Quizzes and Exams Written Critical Thinking Scenarios Problem Analysis and Solution Research and Term Papers</p>	<p>Methods of Evaluation: Laboratory Laboratory Skill Validation by Observation Laboratory Reports Laboratory Research Projects and Reports Laboratory Skill Practicum Exams</p>
<p>Typical Textbooks, Manuals, or Other Support Materials</p> <p style="text-align: center;"> <u>California Water</u>, Littleworth, AL & Garner, EL, Point Arena, CA., Solano Press Books, 1995 <u>The Great Thirst: California and Water, 1970's - 1990's</u> Hundley, N., Berkeley, CA., University of CA. Press, 1992 </p>	
<p>CSU GE Area D.7 Interdisciplinary Social or Behavior Science</p>	
<p>FDRG Lead Signature: _____ Date: _____</p>	
<p>Mark E. Bender, PhD CSU Stanislaus</p>	
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