

# Course Description

use this for Proposing New Courses or GE/USCP Courses

You will need to Save this Document to Your Computer. *Click "File" then Click "Save As"*  
To prepare detailed responses to be included in this document, it is best to edit and revise  
in a separate file, and then copy and paste it into the appropriate field here.

**Note:** To "Unprotect Document" go to Tools menu pull-down.

**However,** information in fields will be **lost** if "Protect Document for Forms" is then re-selected.

Department: Political Science  
College: Liberal Arts

Proposer: Emmit Bud Evans  
E-mail: eevans@calpoly.edu  
Date: 3-19-02

Experimental:   
Begin Date:

## I. Summary Description

1. Course Prefix, Number, Title: POLS 333: World Food Systems
2. Catalog Description (*substantive, but no more than 40 words of content description*)  
Integrated, interdisciplinary study of the technologies of global food production, environmental and social issues related to the application of those technologies, and moral and ethical issues associated with global food production and distribution. Emphasis on the politics of change.
3. Total Course Units:  
4.0  
Number of units per mode of instruction:  
  
Lec 4  
Lab  
Act  
Sem  
Supv  
  
If course has fewer than 4 units and is not an exception, provide a compelling reason.
4. Grading Type:  
Regular   
Credit/NC

5.	Distance Education (DE): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> If yes,     % taught via DE. (see Draft DE Policy, under review)
6.	General Education (GE): No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> If yes, GE Area: F
7.	United States Cultural Pluralism (USCP): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> If yes, refer to USCP criteria.
8.	Service Learning (SL): <i>Proposed SL course?</i> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Criteria under construction.)
9.	Prerequisite/Co-requisites: ( <i>note: 300-400 level courses must have prerequisite</i> ) Junior Standing and Completion of Area B
10.	Crosslisted Course: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> If yes, indicate other course prefix and number:
11.	Repeatable? <i>Is the course repeatable for multiple credit?</i> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> If yes, maximum # units:  Is the course repeatable in the same term? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
12.	Variable Course Content (Subtopics with Different Titles): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
13.	Replacement Course: ( <i>meets prior course requirement &amp; repeats</i> ) No <input type="checkbox"/>

	Yes <input checked="" type="checkbox"/> If yes, indicate prior course prefix, number, title and units: POLS 326: World Food Politics, 4
14.	Course Classification Number(s) C/S#:
<b>II.</b>	<b>Explanation</b>
<b>A.</b>	<b>Proposed for Major, Minor, Support, Certificate or Credential Program(s)?</b>
	Major, required (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	major, elective (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	concentration (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	specialization (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	Minor (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	Support for other programs (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	Certificate programs (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
	Credential programs (if yes, specify): No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>
<b>B.</b>	<p><b>Need</b>          Briefly explain the need for this new course, and describe how it fits into the programs checked above and their missions and strategic plans.</p> <p>World Food Systems addresses the need for a capstone course with an interdisciplinary focus building on and integrating students' Area B base and extending their study to provide an integrated understanding of the environmental and social consequences of the application of the technologies of food production, moral and ethical issues associated with global food production and distribution, and the politics of change toward a more sustainable future.</p>
<b>C.</b>	<p><b>Prerequisites</b>          Briefly explain the reason for any prerequisites or co-requisites for the course.          World Food Systems is a capstone course building on, integrating, and extending students' Area B base.</p>

	<p>Students will need to draw on their</p> <ol style="list-style-type: none"> <li>1. Area B2 Life Science (Biology) and Area B3 Physical Science (Chemistry and Physical Environment) foundations to understand the nutrients required for the growth and health of the human body and the way these nutrients are created and assimilated through photosynthesis and food chemistry processes and nutrient cycles,</li> <li>2. Area B2 Life Science and Area B3 Physical Science foundations to understand the biology, chemistry, and geology of the processes through which the soil is enhanced with the elements and minerals required for food production,</li> <li>3. Area B3 Physical Science foundations to understand the water cycle and the physics of water management systems,</li> <li>4. Area B2 Life Science foundations to understand the plant, animal, and genetic principles involved in controlling pests, disease, and weeds,</li> <li>5. Area B2 Life Science and Area B3 Physical Science foundations to understand the biological and physical processes that underlie the Tragedy of the Commons and the scientific and technological basis of Holistic Resource Management,</li> <li>6. Area B1 Mathematics/Statistics foundations to understand the mathematics and statistics of the process through which predictions are calculated to complete political analyses using Coplin and O'Leary's Political Analysis Through the Prince System.</li> </ol>
<b>III.</b>	<b>Syllabus</b>
<i>Note:</i>	<ul style="list-style-type: none"> <li>• Excerpts from materials already prepared for accrediting agencies may be used in this section.</li> <li>• It is understood that the syllabus will be updated and modified as needed.</li> <li>• For additional information if course is proposed for <b>GE</b>, see <a href="http://www.calpoly.edu/~acadprog/curriculum/GE_courses.htm">www.calpoly.edu/~acadprog/curriculum/GE_courses.htm</a></li> <li>• For additional information if course is proposed for <b>USCP</b>, see <a href="http://www.calpoly.edu/~acadprog/curriculum/cultural_pluralism.html">www.calpoly.edu/~acadprog/curriculum/cultural_pluralism.html</a></li> </ul>
<p><i>For courses with multiple sections, faculty and/or subtopics, describe the consistent principles or key elements that will inform all sections regardless of the subtopic or faculty who will teach the course by providing a representative sample of a syllabus.</i></p>	
<p><b>A. Learning Outcomes</b></p>	<p>What should students know or be able to do after taking this course?</p> <p>Students who complete POLS 333 will learn:</p> <p>KNOWLEDGE of the mechanics and processes through which we apply agricultural technologies to the natural environment to gain increases in the production of food; the manner in which the application of these technologies impact society and the natural environment; the basic elements of political systems from empirical and normative perspectives; and the essential elements and forces that are part of processes of political change (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11).</p> <p>COMPREHENSION of how agricultural systems operate and the history of their evolution; how agricultural production systems have evolved to profoundly impact society and the natural environment; how systems of political economy function to determine the worldwide allocation of food; and how strategies and skills can be applied to achieve political and economic change directed toward achieving more sustainable systems of food production and distribution (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11).</p> <p>APPLICATION of how their knowledge and comprehension of the operations and functions of agricultural technologies and agricultural and political systems can be employed to empower individuals and groups to accomplish change directed toward achieving more sustainable systems of food production and distribution</p>

(E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11).

ANALYSIS of how they can apply their knowledge and comprehension of agricultural technologies and agricultural and political systems in the most effective manner through differentiating and comparing alternatives (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11).

SYNTHESIS of how they can integrate what they have learned in POLS 326 into an understandable whole to heighten their powers of analysis and application (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11).

EVALUATION which will enable them to make critical judgements about the efficacy and effectiveness of various alternatives and the moral and ethical implications of their choices (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11).

**B. Course Content**

Provide a week-by-week outline (readings, discussion topics, lab experiments, activities, assignments, etc.)

WEEK 1 (E1, E2, C1, C8, C9, C10)

A. Human Food Needs

B. The Science of Food Production

To understand human food needs and the science of food production and to begin their assignment to design an artificial biosphere, students will draw on their Area B2 Life Science (Biology) and Area B3 Physical Science (Chemistry and Physical Environment) foundation. Emphasis on the nutrients required for the growth and health of the human body and the way these nutrients are created and assimilated through photosynthesis and food chemistry processes and nutrient cycles.

Readings:

J. Larry Brown and Ernesto Pollitt, "Malnutrition, Poverty, and Intellectual Development," from Scientific American

Jim Wilson, "What is Agriculture," in Changing Agriculture: An Introduction to Systems Thinking

Assignment: Design an Artificial Biosphere, Part I

WEEK 2 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11)

The Technologies of Food Production: Soil Enhancement

Study of the science and technology employed to replenish and enhance soil with the elements and minerals required for food production. Special emphasis on key nitrogen and phosphorus cycles. Students will draw on their Area B2 Life Science and Area B3 Physical Science foundation to understand the biology, chemistry, and geology of these processes.

Readings:

John Mason, "Soils," in Sustainable Agriculture

Peter Warshall, "Lessons from Biosphere 2: Ecodesign, Surprises, and the Humility of Gaian Thought," from Whole Earth Review

Assignment: Design an Artificial Biosphere, Part II

WEEK 3 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C9, C10, C11)

The Technologies of Food Production: Water Management

Study of the technologies employed to manage and conserve water. Emphasis on the evolution of empires and civilizations build on irrigated agriculture, and on irrigation, drinking water, sanitation, and aquaculture systems. Students will draw on their Area B3 Physical Science foundation to understand the water cycle and the physics of water management systems.

Readings:

John Mason, "Water Management," in Sustainable Agriculture

J.W. Maurits la Riviere, "Threats to the World's Water," from Scientific American

WEEK 4 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C9, C10, C11)

The Technologies of Food Production: Pest, Disease, and Weed Control

Study of chemical, organic, and bio-engineering technologies employed to control pests, disease, and weeds. Students will draw on their Area B2 Life Science foundation to understand the plant, animal, and genetic principles involved.

Readings:

John Mason, "Pest and Disease Control," in Sustainable Agriculture

Fakhri A. Bazzaz and Eric D. Fajer, "Plant Life in a CO<sub>2</sub>-Rich World," from Scientific American

WEEK 5 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11)

A. The Tragedy of the Commons

B. Holistic Resource Management

Study of the ways in which the application of technologies to enhance food production interfere with and break natural physical and biological cycles and processes. Emphasis on both the consequences of human action (The Tragedy of the Commons) and efforts to ameliorate damage and implement more sustainable agricultural practices through the science and technology of Holistic Resource Management. Students will draw on a synthesis and convergence of their Area B2 Life Science and Area B3 Physical Science foundation to understand the essence of the tragedy and the scientific and technological basis of Holistic Resource Management.

Readings:

Garrett Hardin, "The Tragedy of the Commons," from Science

Allan Savory, "Succession," from Holistic Resource Management

Assignment: Critique Scientific American article

WEEK 6 (E2, C4, C6, C7, C9, C10, C11)

Issues in Food Distribution and Environmental Impact: The Political System, Empirical Definition

Reading:

Vandana Shiva, *Stolen Harvest: The Hijacking of the Global Food Supply* (first half)

WEEK 7 (E2, C4, C5, C6, C7, C9, C10, C11)

Issues in Food Distribution and Environmental Impact: The Political System, Normative Definitions

Reading:

Vandana Shiva, *Stolen Harvest: The Hijacking of the Global Food Supply* (second half)

WEEK 8 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C9, C10, C11)

A. The Tragedy of the Commonwealth

B. The Politics of Change: Theory and Conceptual Models

Students will draw on their Area B1 Mathematics/Statistics foundation to understand and apply Coplin and O'Leary's Political Analysis Through the Prince System. The Coplin and O'Leary system is a tool that enables one to predict the statistical probability of achieving a given political outcome with respect to a particular issue through a mathematical and statistical analysis based on the identification and quantification of political actors involved, their power, and their salience with respect to the issue. The System then provides strategies for raising the probability of success through applying appropriate political coalition building techniques.

Reading:

William D. Coplin and Michael K. O'Leary, *Political Analysis Through the Prince System*

WEEK 9 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, 10, C11)

The Politics of Change: Case Studies 1

Students will continue to apply their Area B1 Mathematics/Statistics foundation through study and application of the Prince System.

Assignment: Political Change Analysis and Strategy Design

Reading:

Jim Wilson, "Changing for Improvement," in *Changing Agriculture: An Introduction to Systems Thinking*

WEEK 10 (E1, E2, C1, C2, C3, C4, C5, C6, C7, C9, C10, C11)

The Politics of Change: Case Studies 2

Students will continue to apply their Area B1 Mathematics/Statistics foundation through study and application of the Prince System.

Reading:

Craig Warkentin, "Development NGOs," in *Reshaping World Politics: NGOs, the Internet, and Global Civil Society*

	<p><b>C. Assessment Methodologies</b> List and describe the assessment methodologies that will be used to determine the extent to which students have achieved the learning outcomes listed in Section III.</p> <p>Assessment of student learning is accomplished through:</p> <p>(1) a midterm and final examination that employ essay and multiple choice questions for 50% of the course grade, (E1,E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11) and</p> <p>(2) a series of three written course assignments for the other 50% of the course grade through which students</p> <p>(a) design an artificial biosphere (E1, E2, C1, C2, C3, C4, C6, C7, C8, C9, C10, C11),</p> <p>(b) critique an article from Scientific American, (E1, E2, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11), and</p> <p>(c) complete an analysis and design strategies to accomplish political change (E2, C1, C2, C4, C5, C6, C7, C8, C9, C10, C11).</p> <p>The written parts of the examinations and the written assignments listed above account for 55% of the final course grade.</p>
<b>IV.</b>	<b>Consultation</b>
<b>A.</b>	Attach signed concurrence memos from any other departments that will be affected by the new course or its prerequisites.
<b>B.</b>	List all courses that already cover any significant part of the planned subject matter of this course either within the department or from other departments. Explain why duplication of subject matter is necessary. Attach signed concurrence memos from any other departments with which there will be significant duplication.
<b>V.</b>	<b>Resources (in consultation with the College Dean/Associate Dean)</b>
<b>A.</b>	<b>Explain the impact of this new course on allocation of current/new resources.</b>
	<b>Equipment</b> <i>(List new equipment needed, and amount and source of funds.)</i>
	<b>Supplies</b> <i>(List new supplies needed, who will need to purchase the supplies [i.e., students, department], and amount and source of funds.)</i>
	<p><b>Facilities</b> <i>(List type of teaching environment needed.)</i></p> <p>03-213</p>
	<b>Faculty</b> <i>(List faculty members who will initially teach the course, and explain how the time needed for them to teach this course will be made available.)</i>

	<p>LEAD INSTRUCTOR: Emmit Bud Evans</p> <p>GUEST LECTURERS: Steve Kaminaka (Bioresource and Agricultural Engineering), Tom Ruehr (Soil Science), Bob Flores (Agricultural Education), Mary Pedersen (Food Science and Nutrition), John Phillips (Crop Science), Rob Rutherford (Animal Science), Tim O'Keefe (Natural Resources Management), Dan Krieger (History), Bill Preston (Social Sciences)</p> <p>POLS 333 is a Replacement Course for POLS 326, modified to meet Area F requirements. Drawing on the base of the working relationship established by the instructional team listed above through two quarters of faculty seminars supported by a United States Department of Agriculture grant to design an interdisciplinary food systems course, followed by 24 consecutive offerings of POLS 326 over eight years, we are confident we will soon reestablish the consistency, focus, integration, and coherence that helped make POLS 326 a model of interdisciplinary teaching.</p> <p>The Lead Instructor will meet with each of the Guest Lecturers during the Summer of 2001 to adapt and adopt POLS 326 materials and create new materials as necessary for POLS 333. A meeting of the entire instructional team will be held during Fall Conference 2001 to integrate the group's approach to POLS 333. Subsequent meetings with individuals, small groups, or the entire group will be held as necessary to enhance or maintain the focus, consistency, and coherence of the course.</p>
	<p><b>Library or Information Technology</b> <i>(List new periodicals required for initiation and conduct of the course, and number of new volumes of books required; estimate the costs involved. List computer facilities and software needed, and amount and source of funds.)</i></p>
<p><b>B.</b></p>	<p><b>For Department and College Planning Purposes:</b></p>
	<p>Estimated number of students in one section of this course? 130</p>
	<p>Estimated number of sections offered:  each quarter: 1  each year: 3</p>
<p><b>VI.</b></p>	<p><b>Approval Signatures</b></p>
	<p>Department Head/Chair:</p>
	<p>College Curriculum Chair:</p>
	<p>College Dean:</p> <p><i>(This signature is the Dean's guarantee that s/he will provide any additional resources needed to support this course.)</i></p>
	<p>Vice Provost for Academic Programs:</p>

*For questions and concerns contact Mary Whiteford at 756-2246*  
**Last modified November 7, 2001**