

NEW COURSE PROPOSAL

Courses must be submitted by October 15, 2014, and finalized by the end of that fall semester for the next catalog production.

Use YELLOWED areas to enter data.

DATE (*Change if modified and redate file with current date*) 11/6/2014

PROGRAM AREA(S) ESRM

1. Course Information. *[Follow accepted catalog format.]*

Prefix(es) (Add additional prefixes if cross-listed) and **Course No.** ESRM 484

Title: CLIMATE CHANGE AND ADAPTATION PLANNING **Units:** 3

X Prerequisites ESRM 462 or 464, or Consent of Instructor

Corequisites

Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols):

Explores climate change science and its criticisms, climate change scenarios, attribution debate, expected natural and human impacts and vulnerabilities, mitigation, adaptation, and geoengineering. Focuses on adaptation planning and practice for governments and organizations.

Grading Scheme:

X A-F Grades

Credit/No Credit
Optional (Student Choice)

Repeatability:

Repeatable for a maximum of units

Total Completions Allowed

Multiple Enrollment in Same Semester

Course Level Information:

X Undergraduate

Post-Baccalaureate/Credential
Graduate

Mode of Instruction/Components (*Hours per Unit are defaulted*).

	Units	Hours per Unit	Default Section Size	Graded Component	CS & HEGIS # (Filled in by the Provost's Office)
Lecture	3	1	25		
Seminar		1			
Laboratory		3			
Activity		2			
Field Studies					
Indep Study					
Other Blank					

Leave the following hours per week areas blank. The hours per week will be filled out for you.

hours lecture per week

hours blank per week

2. Course Attributes:

General Education Categories: All courses with GE category notations (including deletions) must be submitted to the GE website: <http://summit.csuci.edu/geapproval>. Upon completion, the GE Committee will forward your documents to the Curriculum Committee for further processing.

A (English Language, Communication, Critical Thinking)

A-1 Oral Communication

A-2 English Writing

A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

- B-1 Physical Sciences
- B-2 Life Sciences – Biology
- B-3 Mathematics – Mathematics and Applications
- B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)

- C-1 Art
- C-2 Literature Courses
- C-3a Language
- C-3b Multicultural

D (Social Perspectives)

E (Human Psychological and Physiological Perspectives)

UDIGE/INTD Interdisciplinary

Meets University Writing Requirement (Graduation Writing Assessment Requirement)

Meets University Language Requirement

American Institutions, Title V Section 40404: ☐ Government ☐ US Constitution ☐ US History

Regarding Exec Order 405, for more information: <http://senate.csuci.edu/comm/curriculum/resources.htm>

Service Learning Course (Approval from the Center for Community Engagement must be received before you can request this course attribute).

Online Course (Answer YES if the course is ALWAYS delivered online).

Lab Fee Request – Lab fee requests should be directed to the Student Fee Committee.

3. Justification and Requirements for the Course. (Make a brief statement to justify the need for the course)

A. Justification: Climate change is impacting all aspects of human activities and natural systems. While some governments are rejecting or debating climate change, many are planning and/or preparing to adapt to sea level rise, extended droughts, heat waves, and more intense weather events. Mass media debates to what extent whether current extreme weather events are attributable to climate change and follows releases of climate change studies and meetings of the Intergovernmental Panel on Climate Change (IPCC). The business community is shifting its rhetoric and, to some extent, practices to reduce GHG emissions and adopt sustainable practices. Climate change adaptation and sustainable development are new and growing professions within environmental sciences, engineering, and regional planning with undergraduate and graduate degree programs, professional certificate programs, large conferences, journals and media, and growing political and economic influence.

B. Degree Requirement: ☐ Requirement for the Major/Minor

X Elective for the Major/Minor

X Free Elective

Note: Submit Program Modification if this course changes your program.

4. Student Learning Outcomes. List in numerical order. Please refer to the Curriculum Committee's "Learning Outcomes" guideline for measurable outcomes that reflect elements of Bloom's Taxonomy:

<http://senate.csuci.edu/comm/curriculum/resources.htm>. The committee recommends 4 to 8 student learning outcomes, unless governed by an external agency (e.g., Nursing).

Upon completion of the course, the student will be able to identify, understand, and apply:

- Basic science of climate change and commonly used models and scenarios.
- Expected climate change impacts on economic sectors and natural world.
- Greenhouse Gas emissions mitigations and quantification methodologies.
- Adaption needs and policies for short term climate change impacts.
- Geoengineering ideas to modify the climate and attribution arguments.
- The process of preparing a local climate action plan, government or business.
- The major players and politics of climate change, with a focus on California state government.

5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

First third covers background material through most recent IPCC Assessment:

- 1) Global warming and climate change science: Fourier to Keeling to Gore
- 2) 1988: Formation of International Panel on Climate Change (IPCC), Working Groups
- 3) Climate Change science; impacts, adaptation, and vulnerabilities: examples
- 4) Climate Change mitigation; and greenhouse gas (GHG) inventories: examples
- 5) Results and key findings of the five IPCC Assessments, IPCC recommendations

Second third focuses on US and California:

- 6) Politics and Laws: EPA and Federal agencies, State of California
- 7) AB32 format: Impacts, Risk, Mitigation, Adaptation, and GeoEngineering
- 8) Cap&Trade, energy efficiency, electric cars, renewables, disaster planning, water projects
- 9) A new profession: Sustainability Officer and preparing Climate Action Plans (CAP)
- 10) Information, websites, models, reports, updates, GHG tools, CAP examples, etc.

The last third is application to a local area and/or organization:

- 11) Local weather, meteorology and how weather works: highs, lows, and the jet stream
- 12) Property and rights, due process, and the powers of governments
- 13) Calculating GHG emissions: mitigation strategies and target reductions
- 14) Assessing risk and vulnerabilities: adaptations and emergency operations
- 15) Example and review of a local Climate Action Plan

Does this course content overlap with a course offered in your academic program? Yes ☐ No ☒

If YES, what course(s) and provide a justification of the overlap.

Does this course content overlap a course offered in another academic area? Yes ☐ No ☒

If YES, what course(s) and provide a justification of the overlap.

Overlapping courses require Chairs' signatures.

6. Cross-listed Courses (Please note each prefix in item No. 1) Beyond three disciplines consult with the Curriculum Committee.

A. List Cross-listed Courses (Signature of Academic Chair(s) of the other academic area(s) is required).

List each cross-listed prefix for the course:

B. Program responsible for staffing:

7. References. [Provide 3 - 5 references]

Fletcher, Charles, Climate Change: What the Science Tells Us (John Wiley & Sons, New York), 2013.
National Research Council, Climate Change: Evidence, Impacts, and Choices (National Research Council), 2013
Dessler, Dr. Andrew, Introduction to Modern Climate Change, (Cambridge University Press, New York), 2012
IPCC, Assessment Reports 1 to 5, http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml
US EPA, <http://www.epa.gov/climatechange/>
State of California, <http://www.climatechange.ca.gov/>
Local Government Commission and County of San Luis Obispo, <http://www.lgc.org/the-issues/climate-change/slo>

8. Tenure Track Faculty Qualified to Teach This Course.

Dr. Don Rodriguez
Dr. Sean Anderson
Dr. Chris Williamson, AICP (Lecturer)

9. Requested Effective Date:

First semester offered: Fall 2015

10. New Resources Requested. Yes ☐ No ☒

If YES, list the resources needed.

A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)

B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)

☐

C. Facility/Space/Transportation Needs

☐

D. Lab Fee Requested Yes ☐ No X (Lab fee requests should be directed to the Student Fee Committee)

E. Other

☐

11. Will this new course alter any degree, credential, certificate, or minor in your program? Yes ☐ No X

If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: October 1, 2013 of preceding year.

Priority deadline for Course Proposals and Modifications: October 15, 2013, of preceding year.

Last day to submit forms to be considered during the current academic year: April 15th.

☐ Sean Anderson

☐ 10/15/14

Proposer of Course (Type in name. Signatures will be collected after Curriculum approval)

Date

Approval Sheet

Program/Course:

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
Signature		Date
Program Chair		
Signature		Date
Program Chair		
Signature		Date
General Education Chair		
Signature		Date
Center for International Affairs Director		
Signature		Date
Center for Integrative Studies Director		
Signature		Date
Center for Multicultural Engagement Director		
Signature		Date
Center for Civic Engagement Director		
Signature		Date
Curriculum Chair		
Signature		Date
AVP		
Signature		Date