

NEW COURSE PROPOSAL**Courses must be submitted by November 2, 2009, for priority catalog review.**DATE (*Change if modified and redate file with current date*)

APRIL 6, 2010; REV 4.27.10

PROGRAM AREA(S)

SCHOOL OF EDUCATION

1. Course Information. *[Follow accepted catalog format.]***Prefix(es)** (Add additional prefixes if cross-listed) and **Course No.** EDUC 815**Title:** CSET PREPARATION: GENERAL SCIENCE SUBTEST 119 **Units:** 2

Prerequisites

Corequisites

Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols): **An overview of life science and chemistry concepts for preparation for the California Subject Examinations for Teachers subtest 119. Repeatable for up to four units.****Grading Scheme:**

A-F Grades

x Credit/No Credit

Optional (Student Choice)

Repeatability:

x Repeatable for a maximum of 4 units

X Total Completions Allowed 2

Multiple Enrollment in Same Semester

Course Level Information:

Undergraduate

x Post-Baccalaureate/Credential

Graduate

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

	Units	Hours per Unit	Benchmark Enrollment	Graded Component	CS & HEGIS # (Filled in by the Dean)
Lecture		1			
Seminar		1			
Laboratory		3			
Activity	2	2	20		
Field Studies					
Indep Study					
Other Blank					

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

4 hours activity 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
Meets University Language Requirement

American Institutions, Title V Section 40404: ☐ Government ☐ US Constitution ☐ US History
Refer to website, 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).

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

A. Justification: The State of California's Commission on Teacher Credentialing has developed a new subject matter credential in General Science. Addressing the advertised shortages in math and science teaching, this course will help prepare future teachers with the content required for one of the two subject matter exams to meet subject matter competency for this credential. This fulfills the need for an expedited pathway for producing math and science teachers as advocated by the CSU Chancellor's Office.

B. Degree Requirement: ☐ Requirement for the Major/Minor
☐ Elective for the Major/Minor
☒ Free Elective

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

4. Learning Objectives. (List in numerical order. You may wish to use the following resource in utilizing measurable verbs: <http://senate.csuci.edu/comm/curriculum/resources.htm>)

Upon completion of the course, the student will be able to:

The student will be able to:

1. Identify and describe the basic components of an atom, and differentiate between atoms, molecules, elements, and compounds, and use the periodic table to predict physical properties, chemical reactivity, and bonding of elements.
2. Balance chemical equations, explain and apply principles of conservation of matter, and distinguish among acids, bases, and neutral solutions by their observable properties.
3. Compare and contrast states of matter and distinguish between physical and chemical changes.
4. Describe direction of heat flow in a system, apply the principles of conservation of energy, and relate transfer of energy to changes in temperature.
5. Identify structure and function of cell organelles, differentiate animal and plant cells, and describe cell differentiation.
6. Explain the processes of photosynthesis, anaerobic and aerobic respiration, transpiration, and conversion and storage of energy in the cell.
7. Describe structures and functions of human body systems, vascular and nonvascular plants, and explain the reproductive processes in flowering plants.
8. Describe the processes of DNA replication, mitosis, and meiosis, and how mistakes in these processes can lead to mutations.
9. Compare and contrast sexual and asexual reproduction, and describe the ways inherited traits are determined by one or more genes.
10. Describe the process of protein synthesis, and differentiate the structure and function of carbohydrates, lipids, proteins, and nucleic acids.
11. Explain the theory of natural selection and identify fossil evidence that supports this theory as the mechanism by which evolution has occurred.
12. Identify and explain factors that affect population types and size, and explain energy and nutrient flow through ecosystems.

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

1. Chemistry: Atomic theory and the periodic table
2. Chemistry: Chemical reactions and equations
3. Structure and property of matter
4. Thermodynamics
5. Life Sciences: Cells
6. Life Sciences: Cellular Processes
7. Life Sciences: Plant and Animal organ system structure and function
8. Life Sciences: Genetics
9. Life Sciences: Inheritance
10. Biochemistry and Molecular Biology
11. Evolution

12. Ecology

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

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: EDUC

7. References. [Provide 3 - 5 references]

For subject matter content see:

http://www.cset.nesinc.com/PDFs/CS_genscience_SMR.pdf
http://www.cset.nesinc.com/PDFs/CS_biologylifesci_SMR.pdf
http://www.cset.nesinc.com/PDFs/CS_chemistry_SMR.pdf

8. Tenure Track Faculty Qualified to Teach This Course.

Grier, Bleicher, all science faculty

9. Requested Effective Date:

First semester offered: SP or SU 2010 through Extended Education

10. New Resources Requested. **Yes** ☐ **No** ☒ x

If YES, list the resources needed.

A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)
Access to CI Learn—existing resource

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

C. Facility/Space/Transportation Needs
Wet lab preferred but not required

D. Lab Fee Requested (please refer to Dean's Office for additional processing) **Yes** ☐ **No** ☐

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 5, 2009** of preceding year.

Priority deadline for Course Proposals and Modifications: **November 2, 2009**, of preceding year.

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

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

Date

Approval Sheet

Program/Course: EDUC 815

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.

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
Dean of Faculty		
	Signature	Date