

# CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

## COURSE MODIFICATION PROPOSAL

**Courses must be submitted by October 15, 2012, and finalized by the end of the fall semester to make the next catalog (2013-14) production**

DATE (CHANGE DATE EACH TIME REVISED): 7/2/2012; REV 11.14.12

PROGRAM AREA(S): EDUCATION

**Directions:** All of sections of this form must be completed for course modifications. Use **YELLOWED** areas to enter data. All documents are stand alone sources of course information.

**1. Indicate Changes and Justification for Each.** [Mark all change areas that apply and follow with justification. Be as brief as possible but, use as much space as necessary.]

<input type="checkbox"/> Course title	<input checked="" type="checkbox"/> Course Content
<input type="checkbox"/> Prefix/suffix	<input checked="" type="checkbox"/> Course Learning Outcomes
<input type="checkbox"/> Course number	<input type="checkbox"/> References
<input checked="" type="checkbox"/> Units	<input type="checkbox"/> GE
<input type="checkbox"/> Staffing formula and enrollment limits	<input type="checkbox"/> Other <input type="checkbox"/>
<input type="checkbox"/> Prerequisites/Corequisites	<input type="checkbox"/> Reactivate Course
<input checked="" type="checkbox"/> Catalog description	
<input type="checkbox"/> Mode of Instruction	

**Justification:** This course was previously increased from 3 to 4 units to add literacy methods within the content methods course. With new California Core standards that specify literacy requirements for content areas, we have submitted a 2 unit stand-alone course for the literacy content (see EDSS 540). The literacy course will remove the need for the extra content in this methods course. However, we have kept one key literacy objective in this course so that the content area methods teachers can reinforce good literacy practices. Additionally, the objectives and content of this course have been revised with the publishing of the Next Generation Science Standards, a document that will heavily influence the teaching and learning in K-12 schools.

### 2. Course Information.

[Follow accepted catalog format.] (Add additional prefixes if cross-listed)

#### OLD

Prefix EDSS Course# 542  
Title Teaching Science in High Schools Units (4)  
4 hours lecture per week  
☐ hours blank per week

☒ Prerequisites: Admission to the Single Subject Credential Program  
☐ Consent of Instructor Required for Enrollment  
☒ Corequisites: EDSS 570, EDSS 580, EDSS 575, or EDSS 585

#### Catalog Description (Do not use any symbols):

A study of the content, methodology, materials and current research in teaching high school science courses. Focuses on methods, curriculum design, literacy and technology use specific to teaching science courses in grades 9-12. Emphasizes reflective practice based on California teacher performance expectations and the use and alignment of curricula to the Academic Content Standards for California Public Schools. Emphasizes teaching in multicultural, multilingual and inclusive classrooms.

General Education Categories: ☐  
Grading Scheme (Select one below):  
☒ A – F  
☐ Credit/No Credit  
☐ Optional (Student's Choice)  
Repeatable for up to ☐ units  
Total Completions ☐

#### NEW

Prefix EDSS Course# 542  
Title Teaching Science in High Schools Units (3)  
3 hours lecture per week  
☐ hours blank per week

☒ Prerequisites: Admission to the Single Subject Credential Program  
☐ Consent of Instructor Required for Enrollment  
☒ Corequisites: EDSS 570, EDSS 580, EDSS 575, or EDSS 585

#### Catalog Description (Do not use any symbols):

A study of the content, methodology, materials and current research in teaching high school science courses. Focuses on methods, curriculum design, literacy and technology use specific to teaching science courses in grades 9-12. Emphasizes reflective practice based on California teacher performance expectations and the use and alignment of curricula to the Academic Content Standards for California Public Schools and the next generation science standards. Emphasizes teaching in multicultural, multilingual and inclusive classrooms.

General Education Categories: ☐  
Grading Scheme (Select one below):  
☒ A – F  
☐ Credit/No Credit  
☐ Optional (Student's Choice)  
Repeatable for up to ☐ units  
Total Completions ☐

Multiple Enrollment in Same Semester Y/N  
 Course Level:  
☐ Undergraduate  
☒ x Post-Baccalaureate  
☐ Graduate

Multiple Enrollment in Same Semester Y/N ☐  
 Course Level:  
☐ Undergraduate  
☒ x Post-Baccalaureate  
☐ Graduate

### 3. Mode of Instruction (Hours per Unit are defaulted)

Hegis Code(s) \_\_\_\_\_  
 (Provided by the Dean)

#### Existing

#### Proposed

	Units	Hours Per Unit	Benchmark Enrollment	Graded		Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture	<u>4</u>	<u>1</u>	<u>20</u>	Y	Lecture	<u>3</u>	<u>1</u>	<u>20</u>	Y	<input type="checkbox"/>
Seminar	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	Seminar	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lab	<input type="checkbox"/>	<u>3</u>	<input type="checkbox"/>	<input type="checkbox"/>	Lab	<input type="checkbox"/>	<u>3</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activity	<input type="checkbox"/>	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>	Activity	<input type="checkbox"/>	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field Studies	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Field Studies	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indep Study	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Indep Study	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other blank	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Other blank	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online	<input type="checkbox"/>			<input type="checkbox"/>	Online	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>

### 4. 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).

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

**5. Justification and Requirements for the Course.** *[Make a brief statement to justify the need for the course]*



**OLD**

This is a required course for students seeking a Single Subject Credential in Science.

- x Requirement for the Major/Minor
-  Elective for the Major/Minor
-  Free Elective

**NEW**

This is a required course for students seeking a Single Subject Credential in Science.

- x Requirement for the Major/Minor
-  Elective for the Major/Minor
-  Free Elective

**Submit Program Modification if this course changes your program.**

**6. 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).

**OLD**

Students who successfully complete this course will be able to:

1. define science as the process of inquiry, particularly the systematic search for patterns; define technology as the use of tools; and note the interactions of science, technology, and society.
2. demonstrate proficiency in performance of both the basic and integrated science process skills as ingredients of scientific inquiry.
3. analyze the learning and memory mechanisms which affect the learning of science in multicultural, multilingual, and inclusive contexts.
4. inquire into learning processes and individual learning needs to acquire techniques for promoting meaningful science learning.
5. analyze, synthesize, and evaluate current science education reform initiatives.
6. explore resources and networks which enhance the teaching and learning of science.
7. infuse technology into their science teaching
8. design engaging lessons and assessments aligned to the California State Academic Content Standards and National Science Education Standards
9. Develop reading and writing activities so that students of varied literacy backgrounds have access to a variety of texts.
10. Use a wide variety of strategies to help students access science texts
11. Integrate literacy activities into science instruction to facilitate students' learning science content while at the same time growing as readers and writers.
12. Develop methods for diagnosing students' literacy skills in science
13. Assess the appropriateness of reading materials for science students

**NEW**

Students who successfully complete this course will be able to:

1. define science as the process of inquiry, particularly the systematic search for patterns; define technology as the use of tools; and note the interactions of science, technology, and society.
2. demonstrate proficiency in performance of both the basic and integrated science process skills AND CROSS CUTTING SCIENCE CONCEPTS as ingredients of scientific inquiry.
3. analyze the learning and memory mechanisms which affect the learning of science in multicultural, multilingual, and inclusive contexts.
4. inquire into learning processes and individual learning needs to acquire techniques for promoting meaningful science learning.
5. analyze, synthesize, and evaluate current science education reform initiatives.
6. explore resources and networks which enhance the teaching and learning of science.
7. infuse technology into their science teaching
8. design engaging lessons and assessments aligned to the California State Academic Content Standards and NEXT GENERATION SCIENCE Standards
9. Develop reading and writing activities so that students of varied literacy backgrounds have access to a variety of texts.
10. Use a wide variety of strategies to help students access science texts AND SCIENCE VOCABULARY
- ~~11. Integrate literacy activities into science instruction to facilitate students' learning science content while at the same time growing as readers and writers.~~
- ~~12. Develop methods for diagnosing students' literacy skills in science~~
- ~~13. Assess the appropriateness of reading materials for science students~~

**7. Course Content in Outline Form.** (Be as brief as possible, but use as much space as necessary)

**OLD**

- 1.0 Students will define science as the process of inquiry, particularly the systematic search for patterns; define technology as the use of tools; and note the interactions of science, technology, and society.
- 2.0 Students will demonstrate proficiency in performance of both the basic and integrated science process skills as ingredients of scientific inquiry.
- 3.0 Students will analyze the

**NEW**

- 1.0 Students will define science as the process of inquiry, particularly the systematic search for patterns; define technology as the use of tools; and note the interactions of science, technology, and society.
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learning and memory mechanisms which affect the learning of science in multicultural and multilingual contexts.

4.0 Students will inquire into literacy and learning processes and individual learning needs to acquire techniques for promoting meaningful science learning. 5.0 Students will analyze, synthesize, and evaluate current science education reform initiatives. 6.0 Students will explore resources and networks which enhance the teaching and learning of science. 7.0 Students will infuse technology into their science teaching 8.0 Students will design engaging lessons and assessments aligned to the California State Academic Content Standards and National Science Education Standards

\*9.0 Students Will Study How Literacy Develops And Apply This Knowledge To Teaching Science Reading And Writing Tasks

\*10.0 Students Will Develop Diagnostic And Formative Assessments To Measure Literacy As Applied To Science

\*11.0 Students Will Apply Literacy Knowledge To Practical Techniques For Increasing Science Reading And Vocabulary Comprehension

\*12.0 Students Will Analyze Secondary Science Textbooks And Consider Adaptations For All Learners

scientific inquiry.

3.0 Students will analyze the learning and memory mechanisms which affect the learning of science in multicultural and multilingual contexts.

4.0 Students will inquire into literacy and learning processes and individual learning needs to acquire techniques for promoting meaningful science learning.

5.0 Students will analyze, synthesize, and evaluate current science education reform initiatives.

6.0 Students will explore resources and networks which enhance the teaching and learning of science.

7.0 Students will infuse technology into their science teaching

8.0 Students will design engaging lessons and assessments aligned to the California State Academic Content Standards and NEXT GENERATION SCIENCE STANDARDS

~~\*9.0 Students Will Study How Literacy Develops And Apply This Knowledge To Teaching Science Reading And Writing Tasks~~

~~\*10.0 Students Will Develop Diagnostic And Formative Assessments To Measure Literacy As Applied To Science~~

~~\*9.0 Students Will Apply Literacy Knowledge To Practical Techniques For Increasing Science Reading And Vocabulary Comprehension~~

~~\*12.0 Students Will Analyze Secondary Science Textbooks And Consider Adaptations For All Learners~~

**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.**

**8. 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).**

**B. List each cross-listed prefix for the course:**

**C. Program responsible for staffing:**

**9. References. [Provide 3-5 references]**

OLD

Chiapetta, E.L. & Koballa, T.R. (2002). Science instruction in the middle and secondary schools. Upper River Saddle, NJ: Merrill.

Koballa, T.R. & Tippins, D. J. (2000). Cases in middle and secondary science education. Upper River Saddle, NJ: Merrill.

Layman, J. W. (1996). Inquiry and learning: Realizing science standards in the classroom. New York, NY: The College Board.

National Research Council. (1996). The National Science Education Standards. Washington DC: National Academy Press.

Trowbridge, L.W., Bybee, R.W., & Powell, J.C. (2000). Teaching secondary school science. Upper River Saddle, NJ: Merrill

Content area reading and learning : instructional strategies/Eds. Diane Lapp, James Flood, Nancy Farnan. Mahwah, N.J.:

Lawrence Erlbaum, 2004. Content Area Reading: Literacy and Learning Across the Curriculum (8th Edition) by Richard T.

Vacca, Jo Anne L. Vacca. Pearson Allyn & Bacon, 2005.

NEW

Chiapetta, E.L. & Koballa, T.R. (2002). Science instruction in the middle and secondary schools. Upper River Saddle, NJ:

Merrill. Koballa, T.R. & Tippins, D. J. (2000). Cases in middle and secondary science education. Upper River Saddle, NJ:

Merrill. Layman, J. W. (1996). Inquiry and learning: Realizing science standards in the classroom. New York, NY: The College

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Lawrence Erlbaum, 2004.

**10. Tenure Track Faculty qualified to teach this course.**

11. Requested Effective Date or First Semester offered: Spring 2013

12. New Resource 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 ☐ ( Refer to the Dean's Office for additional processing)

E. Other. ☐

13. Will this course modification alter any degree, credential, certificate, or minor in your program? Yes ☒ No ☐

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

Priority deadline for New Minors and Programs: October 1, 2012 of preceding year.

Priority deadline for Course Proposals and Modifications: October 15, 2012.

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

Mary Adler & Jeanne Grier

7/2/2012

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Proposer(s) of Course Modification

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Date

Type in name. Signatures will be collected after Curriculum approval.

# Approval Sheet

## Course: EDSS 541

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 Intl Affairs Director		
Signature		Date
Center for Integrative Studies Director		
Signature		Date
Center for Multicultural Engagement Director		
Signature		Date
Center for Civic Engagement and Service Learning Director		
Signature		Date
Curriculum Chair		
Signature		Date
AVP		
Signature		Date