CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by November 2, 2009, to make the next catalog (2010--2011) production

DATE (CHANGE DATE EACH TIME REVISED): 9/29/2009 REV 11.2.09

PROGRAM AREA(S) : CHEMISTRY

Directions: All of sections of this form must be completed for course modifications. All documents are stand alone sources of course information.

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1. Course Information.

[Follow accepted catalog format.] ***(Add additional prefixes i f cross-listed)***

OLD

Prefix CHEM Course# 313 Title

ORGANIC CHEMISTRY I LEARNING COMMUNITY Units (1)

hours lecture per week

1 hours blank per week

Prerequisites:

Consent of Instructor Required for Enrollment

x Corequisites: CHEM 311

Catalog Description (Do not use any symbols):

Interactive problem-solving session for students in CHEM 311 where students work in small groups on problems related to the content in CHEM 311.

General Education Categories

Lab Fee Requested

Graded

CR/NC

x A - F

Repeatable for up to units

Total Completions

Course Level:

Undergraduate

Post-bac/Credential

Graduate

Optional (Student's choice)

Multiple Enrollment in same semester

NEW

Prefix CHEM Course# 313 Title

ORGANIC CHEMISTRY I PROBLEM SOLVING Units (1)

hours lecture per week

1hours discussion per week

Prerequisites:

Consent of Instructor Required for Enrollment

x Corequisites: CHEM 311

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

Interactive problem-solving session for students in CHEM 311 where students work in small groups on problems related to the content in CHEM 311.

General Education Categories

Lab Fee Requested

Graded

x CR/NC

A - F

Repeatable for up to units

Total Completions

Course Level:

XX Undergraduate

Post-bac/Credential

Graduate

Optional (Student's choice)

Multiple Enrollment in same semester

2. Mode of Instruction (Hours per Unit are defaulted) **Hegis Code(s)**_____ (Provided by the Dean)

Existing

	Units	Hours Per Unit	Benchmark Enrollment	Graded
Lecture		1		
Seminar		1		
Lab		3		
Activity	1	2	30	x
Field Studies				
Indep Study				
Other blank				

Proposed

	Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture		1			
Seminar		1			
Lab		3			
Activity		2			
Field Studies					
Indep Study					
Other discussion	1		30	x	

3. 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).

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

OLD	**NEW**
This course accompanies the the first semester organic chemistry course (CHEM 311) and provides students with an interactive, problem-solving session where students work in small teams to solve problems in organic chemistry.	This course accompanies the the first semester organic chemistry course (CHEM 311) and provides students with an interactive, problem-solving session where students work in small teams to solve problems in organic chemistry.
Requirement for the Major/Minor Elective for the Major/Minor Free Elective	Requirement for the Major/Minor XX Elective for the Major/Minor Free Elective

Submit Program Modification if this course changes your program.

5. Learning Objectives. (List in numerical order. You may wish to visit resource information at the following website: http://senate.csuci.edu/comm/curriculum/resources.htm)

Upon completion of the course, the student will be able to:	Upon completion of the course, the student will be able to:
OLD Students who successfully complete this course will be able to:	**NEW** Students who successfully complete this course will be able to:
• Recognize the development of the field of organic chemistry from a historical perspective and how organic chemistry has impacted society	• Recognize the development of the field of organic chemistry from a historical perspective and how organic chemistry has impacted society
• Describe the scientific method and how it is used to approach the study of organic molecules	• Describe the scientific method and how it is used to approach the study of organic molecules
• Recognize functional groups and how they serve as building blocks of more complex organic molecules	• Recognize functional groups and how they serve as building blocks of more complex organic molecules
• Evaluate the relationship between the geometric structures of	• Evaluate the relationship between the geometric structures of

OLD	NEW
various molecules	various molecules
• Explain the behavior of organic reactions using their knowledge of thermodynamics and kinetics and the geometric and electronic structures of organic molecules	• Explain the behavior of organic reactions using their knowledge of thermodynamics and kinetics and the geometric and electronic structures of organic molecules
• Explain the basic scientific principles that form the basis for organic chemistry analysis including chromatography, infrared and ultraviolet spectrophotometry, mass spectrometry, and nuclear magnetic resonance spectrometry, and the limitations of these techniques	• Explain the basic scientific principles that form the basis for organic chemistry analysis including chromatography, infrared and ultraviolet spectrophotometry, mass spectrometry, and nuclear magnetic resonance spectrometry, and the limitations of these techniques
• Identify the reactions and synthesis of alkyl halides, alkenes, alkynes, and dienes	• Identify the reactions and synthesis of alkyl halides, alkenes, alkynes, and dienes

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

OLD	NEW
Structure and Bonding	Structure and Bonding
Historical context of the development of organic chemistry	Historical context of the development of organic chemistry
A review of atomic and molecular structure	A review of atomic and molecular structure
Valence bond description of bonds	Valence bond description of bonds
Resonance and electron-pushing	Resonance and electron-pushing
Molecular orbital description of bonds	Molecular orbital description of bonds
Properties of bonds	Properties of bonds
Acid-Base Chemistry	Acid-Base Chemistry
Brønsted and Lewis Definitions of Acids and Bases	Brønsted and Lewis Definitions of Acids and Bases
Acid-base equilibria	Acid-base equilibria
Electron-pushing in acid-base reactions	Electron-pushing in acid-base reactions
Structures and Naming of Organic Molecules	Structures and Naming of Organic Molecules
Functional groups	Functional groups
Constitutional isomerism	Constitutional isomerism
Representations of organic molecules	Representations of organic molecules
IUPAC naming of alkanes and alkyl halides	IUPAC naming of alkanes and alkyl halides
Configurational isomerism	Configurational isomerism
Chirality, optical activity, and representations of chiral molecules	Chirality, optical activity, and representations of chiral molecules
Conformational analysis	Conformational analysis
Spectroscopic Determination of Molecular Structure	Spectroscopic Determination of Molecular Structure
Degree of unsaturation	Degree of unsaturation
Mass Spectrometry (MS and GC/MS)	Mass Spectrometry (MS and GC/MS)
Infrared spectroscopy (IR)	Infrared spectroscopy (IR)
Nuclear Magnetic Resonance spectroscopy (NMR)	Nuclear Magnetic Resonance spectroscopy (NMR)
Ultraviolet-visible spectroscopy (UV-vis)	Ultraviolet-visible spectroscopy (UV-vis)
Overview of Organic Reactions	Overview of Organic Reactions
Classifications of organic reactions and reaction mechanisms	Classifications of organic reactions and reaction mechanisms
Overview of organic reaction mechanisms	Overview of organic reaction mechanisms
Electron pushing in polar and radical mechanisms	Electron pushing in polar and radical mechanisms
Kinetics and thermodynamics of organic reactions	Kinetics and thermodynamics of organic reactions
Reaction energy diagrams	Reaction energy diagrams
Alkyl Halides and their Synthesis	Alkyl Halides and their Synthesis
Radical halogenation of alkane	Radical halogenation of alkane
Radical structure and stability	Radical structure and stability
Conversion of alcohols to alkyl halides	Conversion of alcohols to alkyl halides
Nucleophilic Substitution and Elimination	Nucleophilic Substitution and Elimination
Substitution vs. elimination and nucleophile structure	Substitution vs. elimination and nucleophile structure
Substitution mechanisms	Substitution mechanisms
Carbocation structure and stability	Carbocation structure and stability

Elimination mechanisms	Elimination mechanisms
Alkenes and their Synthesis	Alkenes and their Synthesis
Naming of alkenes and E/Z notation	Naming of alkenes and E/Z notation
Addition reactions of alkenes	Addition reactions of alkenes
Oxidation/ reduction of alkenes	Oxidation/ reduction of alkenes
Synthesis Reactions	Synthesis Reactions
Organometallics and coupling reactions	Organometallics and coupling reactions
Dienes and their reactions	Dienes and their reactions
Diels-Alder Reaction	Diels-Alder Reaction

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.

7. 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:

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

OLD

McMurray, J. Organic Chemistry, 5th Ed., 2000
Weeks, D. P. Pushing Electrons, 3rd Ed., 1998
Wade, L. G., Jr. Organic Chemistry, 5th Ed., 2002
Bruice, P. Organic Chemistry, 3rd Ed., 2000

NEW

McMurray, J. Organic Chemistry, 5th Ed., 2000
Weeks, D. P. Pushing Electrons, 3rd Ed., 1998
Wade, L. G., Jr. Organic Chemistry, 5th Ed., 2002
Bruice, P. Organic Chemistry, 3rd Ed., 2000

9. Tenure Track Faculty qualified to teach this course.
Phil Hampton

10. Requested Effective Date or First Semester offered: Fall 2010

11. 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** x **(Refer to the Dean's Office for additional processing)**
E. Other.

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

XX Course title
Prefix/suffix
Course number
Units
Staffing formula and enrollment limits
Prerequisites/Corequisites
Catalog description
x Mode of Instruction
Course Content
Course Learning Objectives
References
GE
x Other Grading
Reactivate Course

Justification: The department met and decided that credit/no-credit was a more appropriate grading scheme for this type of course. Students typically either did the work required or did not. Also, the mode of instruction was incorrectly listed in the original course proposal. We have also taught it as a one-hour discussion course.

13. Will this course modification 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.
Last day to submit forms to be considered during the current academic year: April 15th.

Simone Aloisio — 9/29/2009

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

Approval Sheet

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.

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
Dean of Faculty		
	Signature	Date