CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by October 15, 2010, to make the next catalog (2011-12) production

DATE (CHANGE DATE EACH TIME REVISED): 6/7/10; REV 10.11.10

PROGRAM AREA(S) : COMPUTER SCIENCE

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. Course Information.

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

OLD

Prefix COMP Course# 437 Title Foundations of Computer Game Development Units (3)
3 hours lecture per week
hours blank per week

X Prerequisites: COMP 105, Math 137, Art 205, Art 206 or consent of the instructor
Consent of Instructor Required for Enrollment
Corequisites:

Catalog Description (Do not use any symbols):
This course lays down the foundation for a multi-disciplinary approach to computer game development. The students study game design principles followed by implementation methodologies and technologies. Management issues in the gaming industry are also examined. The students develop an understanding of how various perspectives from art, technology and business come together in the creation of compelling and profitable game entertainment.

General Education Categories B4, UDIGE
Lab Fee Requested

Course Level:
X Undergraduate
Post-bac/Credential
Graduate

Graded
CR/NC
X A - F

Optional (Student's choice)

Repeatable for up to units
Total Completions
Multiple Enrollment in same semester

NEW

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X Prerequisites: COMP 105, Math 137, Art 205, Art 206 or consent of the instructor
Consent of Instructor Required for Enrollment
Corequisites:

Catalog Description (Do not use any symbols)**:**
Provides the foundation for a multi-disciplinary approach to computer game development. The students study game design principles; implementation methodologies and technologies; gaming industry management issues, perspectives from art, technology and business.

X General Education Categories B4, UDIGE
Lab Fee Requested

Course Level:
X Undergraduate
Post-bac/Credential
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Graded
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Optional (Student's choice)

Repeatable for up to units
Total Completions
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	3	1	24	y
Seminar		1		
Lab		3		
Activity		2		

Proposed

	Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture	3	1	24	y	
Seminar		1			
Lab		3			
Activity		2			

Field Studies				Field Studies					
Indep Study				Indep Study					
Other blank				Other blank					

3. Course Attributes:

X **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
- X 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)

X **UDIGE/INTD Interdisciplinary**

X **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

This General Education course is a required upper division course for the Computer Gaming Minor. It is also an elective in Computer Science and Math. The students enrolled in the lower division required courses study several areas necessary for effective workers in the gaming industry. This interdisciplinary course both combines everything the student has learned in those specific courses and adds additional expertise in such areas as management considerations, storytelling, and more. It equips the students with an understanding of the roles of all members of a game development team. Local computer gaming representatives have stated that this knowledge is very important for their employees. The major outcome of this course is a game design document .

This course satisfies the University Writing and/or Language requirements, because the students collaborating in multidisciplinary groups will produce substantial design documents and business plans for new computer games. The documents are expected to be extensive and cover all aspects of

NEW

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game development including storylines, visual and audio components, software and hardware design, and business analyses. Many documents will also include legal, psychological and societal evaluations of the impacts of the proposed games.	game development including storylines, visual and audio components, software and hardware design, and business analyses. Many documents will also include legal, psychological and societal evaluations of the impacts of the proposed games
X Requirement for the Major/Minor	X Requirement for the Major/Minor
X Elective for the Major/Minor	X Elective for the Major/Minor
Free Elective	Free Elective

Submit Program Modification if this course changes your program.

5. Student Learning Outocmes. (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: **OLD**	Upon completion of the course, the student will be able to: **NEW**
Analyze the business and technical tradeoffs of producing a game	Analyze the business and technical tradeoffs of producing a game
• Describe the basic components of a computer game and gaming environments.	• Describe the basic components of a computer game and gaming environments.
• Discuss the psychological imperatives in game design.	• Describe the psychological imperatives in game design.
• Identify and design a variety of game strategies and environments.	• Identify and design a variety of game strategies and environments.
• Incorporate visual arts and audio in games.	• Incorporate visual arts and audio in games.
• Design effective user interfaces in computer games.	• Design effective user interfaces in computer games.
• Incorporate artificial intelligence methods in game design.	• Incorporate artificial intelligence methods in game design.
• Design a variety of game components including storyline, storyboard, characters, virtual worlds, control strategies, etc.	• Design a variety of game components including storyline, storyboard, characters, virtual worlds, control strategies, etc.
• Describe the composition of a game development team and the roles of its members.	• Describe the composition of a game development team and the roles of its members.
• Work as part of a game development team.	• Actively participates as part of a game development team.
• Organize and express ideas clearly and convincingly in oral and written forms.	• Organize and express ideas clearly and convincingly in oral and written forms.
• Construct, submit and evaluate written reports on related technical topics	• Construct, submit and evaluate written reports on related technical topics
• Write a detailed business plans and a design document for computer games.	• Write a detailed business plan and a design document for computer games.

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

OLD	**NEW**

□ Business and technical tradeoffs in game development	□ Business and technical tradeoffs in game development
• Multidisciplinary team requirement.	• Multidisciplinary team requirement.
• Computer game uses (beyond entertainment)	• Computer game uses (beyond entertainment)
• Components of a Computer Gaming system.	• Components of a Computer Gaming system.
• The "idea" and storyline for a computer game.	• The "idea" and storyline for a computer game.
• How to write an effective game design document.	• How to write an effective game design document.
• Roles played in a computer game.	• Roles played in a computer game.
• The top-down structure of a computer game.	• The top-down structure of a computer game.
• Probability and Statistics in a computer game.	• Probability and Statistics in a computer game.
• Computer Graphics of a computer game.	• Computer Graphics of a computer game.
• Mathematics and Physics of a computer game.	• Mathematics and Physics of a computer game.
• The psychology of playing games.	• The psychology of playing games.
• The human-computer interaction design in a computer game.	• The human-computer interaction design in a computer game.
• The use of networks and distributed computing in computer games.	• The use of networks and distributed computing in computer games.

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
Press enter for the next number)

1. Introduction to Game Development, Steve Rabin, Ed., Charles River Media Publishing, 2005.
2. Game Development and Production, Eric Bethke, Wordware Publishing, 2003
3. Rules of Play : Game Design Fundamentals, Katie Salen, Eric Zimmerman, The MIT Press, 2003.

NEW
Press enter for the next number)

1. Introduction to Game Development, Steve Rabin, Ed., Charles River Media Publishing, 2005.
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9. Tenure Track Faculty qualified to teach this course.
All Computer Science faculty

10. Requested Effective Date or First Semester offered: Fall 2011

11. New Resource Requested: Yes ☐ **No** X
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.

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.]*

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

Justification: Outcome reworded to make it assessable

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 4, 2010 of preceding year.
Priority deadline for Course Proposals and Modifications: October 15, 2010.
Last day to submit forms to be considered during the current academic year: April 15th.

Peter Smith — 6/7/10

Proposer(s) of Course Modification — Date

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

Request for COMP 437: Foundations of Computer Game Development to be added to GE Category B4: Computers and Information Technology.

Committee Response:
Approved by committee on 09-24-2010

Criteria and Justifications Submitted:

- *Promote the understanding and appreciation of the methodologies of math or science as investigative tools and the limitations of mathematical or scientific endeavors*
  Successful games involve much mathematics and science (particularly Physics).
- *Present mathematical or scientific knowledge in a historical prespective and the influences of math and science on the development of world civilizations, both past and present*
  Newton's Laws of Motion are examples of historical ideas that influence world models underlying games. In developing new games, students examine existing games from the very old to contemporary. "World Civilizations" here can be broadly interpreted to include virtual worlds.
- *Apply inductive and deductive reasoning processes and explore fallacies and misconceptions in the mathematical or scientific areas*
  Student groups critically evaluate proposals for games from other groups and produce documents for their own.
- *Include use of computers or information technology to solve problems as appropriate*
  Computers are used extensively in the production of design documents including spreadsheets and power point presentations. Computers are used extensively in producing prototypes of games.

Request for COMP 437: Foundations of Computer Game Development to be added to GE Category UDIGE: Upper Division Interdisciplinary GE.

Committee Response:
Approved by committee on 09-24-2010

Criteria and Justifications Submitted:

- *Emphasize interdisciplinarity by integrating content, ideas, and approaches from two or more disciplines*
  The course is designed to integrate material from foundational courses in Math, Art, English, Business and Computer Science.
- *Include substantive written work consisting of in-class writing as well as outside class writing of revised prose. Examples of appropriate written work include: short papers, long papers, term papers, lab reports, documentation, disciplinary-based letters and memos, and essays.*
  There is a significant writing component. Student groups produce business plans in addition to documenting their game proposals.

Approval Sheet

Course: 437

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