

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 9.20.10; REV 2.2.12

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				NEW			
Prefix	COMP	Course#	Title	Prefix	COMP	Course#	Title
		425	Computer Game			425	Computer Game
Programming Units (3)				Programming Units (3)			
3 hours lecture per week				3 hours lecture per week			
<div style="background-color: yellow; width: 50px; height: 15px;"></div> hours blank per week				<div style="background-color: yellow; width: 50px; height: 15px;"></div> hours blank per week			
X Prerequisites: COMP 151 COMP 429 & COMP 464				X Prerequisites: Comp 151			
<div style="background-color: yellow; width: 50px; height: 15px;"></div> Consent of Instructor Required for Enrollment				<div style="background-color: yellow; width: 50px; height: 15px;"></div> Consent of Instructor Required for Enrollment			
Corequisites: <div style="background-color: yellow; width: 50px; height: 15px;"></div>				Corequisites: <div style="background-color: yellow; width: 50px; height: 15px;"></div>			
Catalog Description (Do not use any symbols): This introductory course focuses on exploring software techniques for development of computer-controlled games. The following areas will be covered: principles of game design, integrating graphics, animation and audio in games, game control including methods based on artificial intelligence, networking for multi-player games, game optimization and deployment, and game development cycle.				Catalog Description (Do not use any symbols): This introductory course focuses on exploring software techniques for development of computer-controlled games. The following areas will be covered: principles of game design, integrating graphics, animation and audio in games, game control including methods based on artificial intelligence, networking for multi-player games, game optimization and deployment, and game development cycle.			
General Education		<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Graded	General Education		<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Graded
Categories	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	CR/NC	<div style="background-color: yellow; width: 50px; height: 15px;"></div> Repeatable	Categories	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	CR/NC	<div style="background-color: yellow; width: 50px; height: 15px;"></div> Repeatable for
Lab Fee Requested	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	X A - F	for up to <div style="background-color: yellow; width: 50px; height: 15px;"></div> units	Lab Fee Requested	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	X A - F	up to <div style="background-color: yellow; width: 50px; height: 15px;"></div> units
Course Level:		<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Completions <div style="background-color: yellow; width: 50px; height: 15px;"></div>	Course Level:		<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Completions <div style="background-color: yellow; width: 50px; height: 15px;"></div>
<div style="background-color: yellow; width: 50px; height: 15px;"></div> Undergraduate	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Optional	Multiple	<div style="background-color: yellow; width: 50px; height: 15px;"></div> Undergraduate	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Optional	Multiple
<div style="background-color: yellow; width: 50px; height: 15px;"></div> Post-bac/Credential	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	(Student's	Enrollment in	<div style="background-color: yellow; width: 50px; height: 15px;"></div> Post-bac/Credential	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	(Student's	Enrollment in same
<div style="background-color: yellow; width: 50px; height: 15px;"></div> Graduate	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	choice)	same semester	<div style="background-color: yellow; width: 50px; height: 15px;"></div> Graduate	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	choice)	semester

2. 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>3</u>	<u>1</u>	<u>20</u>	y	Lecture	<u>3</u>	<u>1</u>	<u>20</u>	y	<div style="background-color: yellow; width: 50px; height: 15px;"></div>
Seminar	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<u>1</u>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Seminar	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<u>1</u>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>
Lab	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<u>3</u>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Lab	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<u>3</u>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>
Activity	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<u>2</u>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Activity	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<u>2</u>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>
Field Studies	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Field Studies	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>
Indep Study	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Indep Study	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>
Other blank	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	Other blank	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>	<div style="background-color: yellow; width: 50px; height: 15px;"></div>

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

This course is an elective for the Computer Gaming Minor. It will also be an elective in Computer Science and Math. The core of a computer game is a program. However, constructing a game program differs from writing programs that the students learned in other classes. It requires incorporation of techniques that cross boundaries of several disciplines. Game programs have to manage dynamically and intelligently the narrative, visuals and audio with the purpose of maximizing the perception of fun by the game player.

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

NEW

This course is an elective for the Computer Gaming Minor. It will also be an elective in Computer Science and Math. The core of a computer game is a program. However, constructing a game program differs from writing programs that the students learned in other classes. It requires incorporation of techniques that cross boundaries of several disciplines. Game programs have to manage dynamically and intelligently the narrative, visuals and audio with the purpose of maximizing the perception of fun by the game player.

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

Submit Program Modification if this course changes your program.

5. Student Learning Outcomes. (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

- Discuss principles of game development and design
- Design computer game graphics like background worlds, characters, and

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

NEW

- Describe principles of game development and design
- Design computer game graphics like background worlds, characters, and

- menus
- Design computer game audio for sound effects and background music
- Program character controls and game logic
- Create virtual worlds for games
- Use networking code for multi-player games
- Optimize game code for space and time efficiency

Deploy games for easy distribution

- menus
- Design computer game audio for sound effects and background music
- Program character controls and game logic
- Create virtual worlds for games
- Use networking code for multi-player games
- Optimize game code for space and time efficiency

Deploy games for easy distribution

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

OLD

- Theory of Fun
- Game Design Principles
- Game Architecture
- Incorporating 2D Graphics
- Character Animation
- Building User Interfaces
- Programming Game Logic
- Collision Detection
- Path Finding
- Incorporating Audio
- Artificial Intelligence for Games
- Networking for Games
- Incorporating 3D Graphics
- Texture Mapping and Lighting
- Scripting
- Game State Persistence
- Code Optimization
- Game Deployment

NEW

- Theory of Fun
- Game Design Principles
- Game Architecture
- Incorporating 2D Graphics
- Character Animation
- Building User Interfaces
- Programming Game Logic
- Collision Detection
- Path Finding
- Incorporating Audio
- Artificial Intelligence for Games
- Networking for Games
- Incorporating 3D Graphics
- Texture Mapping and Lighting
- Scripting
- Game State Persistence
- Code Optimization
- Game Deployment

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.

7. Cross-listed Courses (Please note each prefix in item No. 1)

- 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:
- Program responsible for staffing:

8. References. [Provide 3-5 references]

OLD Beginning Mobile Phone Game Programming, Michael Morrison, SAMS Publishing 2005

2. Core Techniques and Algorithms in Game Programming, Daniel Sanchez-Crespo Dalmau, New Riders Publishing, 2004.

3. Developing Games in Java, David Brackeen, New Riders Publishing, 2004
4. Artificial Intelligence Game Engine Programming, Brian Schwab, Charles River Media, 2004
5. Software Engineering for Game Development, John P. Flynt, Thomson Course Technology, 2005

NEW Beginning Mobile Phone Game Programming, Michael Morrison, SAMS Publishing 2005

2. Core Techniques and Algorithms in Game Programming, Daniel Sanchez-Crespo Dalmau, New Riders Publishing, 2004.
3. Developing Games in Java, David Brackeen, New Riders Publishing, 2004
4. Artificial Intelligence Game Engine Programming, Brian Schwab, Charles River Media, 2004
5. Software Engineering for Game Development, John P. Flynt, Thomson Course Technology, 2005

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 ☒
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.]

<input type="checkbox"/> Course title	<input type="checkbox"/> Course Content
<input type="checkbox"/> Prefix/suffix	<input checked="" type="checkbox"/> Course Learning Objectives
<input type="checkbox"/> Course number	<input type="checkbox"/> References
<input 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 type="checkbox"/> Catalog description	
<input type="checkbox"/> Mode of Instruction	

Justification: Outcome reworded to make it assessable

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

Date

Approval Sheet

Course: COMP 425

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