CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by October 15, 2013, and finalized by the end of the fall semester to make the next catalog (2014-15) production

DATE (CHANGE DATE EACH TIME REVISED): 9/3/13 – REQUEST TO OFFER COURSE SPR 2014; OK W D WAKELEE REV 9.10.13

PROGRAM AREA(S) : COMPUTER SCIENCE AND INFORMATION TECHNOLOGY AND ART

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.

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1. Indicate Changes and Justification for Each. *[Mark an X by all change areas that apply then please follow-up your X's with justification(s) for each marked item. Be as brief as possible but, use as much space as necessary.]*

- [ ] Course title
- [X] Prefix/suffix
- [ ] Course number
- [ ] Units
- [ ] Staffing formula and enrollment limits
- [X] Prerequisites/Corequisites
- [ ] Catalog description
- [X] Mode of Instruction
- [X] Course Content
- [X] Course Learning Outcomes
- [X] References
- [ ] GE
- [X] Other Justification,
- [X] Reactivate Course

Justification: COMP 466 has never been offered. We would like to offer it for the first time in Spring 2014 as COMP/IT/ART466. This form brings is up to date from the original proposal and cross-lists it so that IT majors can take it.

2. Course Information.

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

OLD

Prefix COMP Course# 466
Title Computer Graphic Systems and Design II Units (3)
3 hours lecture per week
hours blank per week

[X] Prerequisites: COMP 464
[ ] Consent of Instructor Required for Enrollment
Corequisites:

Catalog Description (Do not use any symbols):

Advanced concepts of computer graphics. Topics include computer graphics software and hardware, mathematical basis of geometric modeling, data base management in manufacturing environments, imagining and visualization.

General Education Categories:
Grading Scheme (Select one below):
[X] 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:
[X] Undergraduate
[ ] Post-Baccalaureate
[ ] Graduate

NEW

Prefix COMP/IT/ART Course# 466
Title Computer Graphic Systems and Design II Units (3)
2 hours lecture per week
3 hours LAB per week

[X] Prerequisites: COMP/IT 464
[ ] Consent of Instructor Required for Enrollment
Corequisites:

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

Advanced concepts of computer graphics. Topics include computer graphics software and hardware, mathematical basis of geometric modeling, data base management in manufacturing environments, imagining and visualization.

General Education Categories:
Grading Scheme (Select one below):
[X] 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:
[X] Undergraduate
[ ] 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	3	1	24	y	Lecture	2	1	24	y	
Seminar		1			Seminar		1			
Lab		3			Lab	1	3	24	y	
Activity		2			Activity		2			
Field Studies					Field Studies					
Indep Study					Indep Study					
Other blank					Other blank					
Online					Online					

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/ge
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 (Graduation Writing Assessment Requirement)
Meets University Language Requirement

American Institutions, Title V Section 40404: Government US Constitution US History
Regarding 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
The course is an elective course for Computer Science majors.

NEW
The course is an elective course for Computer Science and Information Technology majors.

Requirement for the Major/Minor	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.

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).

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

OLD

1. Apply advanced graphic modeling techniques
2. Analyze complex geometric configurations
3. Create dynamic simulations
4. Write original computer code for a graphic simulation
5. create advanced animations
6. Analyze scientific visualization processes
7. Organize and express ideas clearly in convincingly in oral and written forms.

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

NEW

1 Apply advanced graphic modeling techniques
2 Analyze complex geometric configurations
3 Create dynamic simulations
4 Write original computer code for a graphic simulation
5 Create advanced animations
6 Analyze scientific visualization processes
7 Synthesize and articulate ideas clearly and convincingly in oral and written forms.

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

OLD

1. Advanced rendering techniques
2. Scientific visualization
3. Advanced Algorithmic Methods
4. Advanced Animations
5. Advanced Dynamics

NEW

1. Modeling non-rigid objects
2. Modeling natural phenomena
3. Fractals and chaos
4. Turbulence
5. Particle systems
6. Ray tracing
7. Global illumination
8. Advanced real-time rendering
9. Basic Animation
10. Animating articulated structures

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.

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: COMP, IT, ART
C. Program responsible for staffing: Computer Science and Information Technology

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

OLD *Advanced Animation and Rendering Techniques*, Wall, Addison-Wesley, 1999, 0201544121

NEW 1. Computer Graphics: Principles and Practice, 3rd Edition
John F. Hughes, Andries van Dam, Morgan McGuire, David Sklar, James D. Foley, Steven K. Feiner, Kurt Akeley
Addison-Wesley Professional, July 20, 2013

ISBN-10: 0321399528

2. Physically Based Rendering, Second Edition: From Theory To Implementation
Matt Pharr, Greg Humphreys
Morgan Kaufmann, July 12, 2010
ISBN-10: 0123750792

10. Tenure Track Faculty qualified to teach this course.
All Computer Science faculty

11. Requested Effective Date or First Semester offered: Spring 2014 – Approved by D Wakelee

12. 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.

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 1, 2013 of preceding year.
Priority deadline for Course Proposals and Modifications: October 15, 2013.
Last day to submit forms to be considered during the current academic year: April 15th.

Peter Smith, David Claveau 9/3/13

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

Approval Sheet

Course: COMP/IT 466

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