

**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): 8/9/10; 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 if cross-listed)*

**OLD**

Prefix IT Course# 464 Title Computer Graphics for IT Units (3)  
 3 hours lecture per week  
 hours blank per week

X Prerequisites: IT151 and Math300  
 Consent of Instructor Required for Enrollment  
 Corequisites:

**Catalog Description** (Do not use any symbols):  
 Fundamental concepts of computer graphics. Graphics devices; graphics languages; interactive systems. Applications to art, science, engineering and business. Trade-offs between hardware devices and software support.

General Education Categories   
 Lab Fee Requested

Graded CR/NC  Repeatable for up to  units Total Completions  Multiple Enrollment in same semester

X A - F  Optional (Student's choice)

Course Level:   
 X Undergraduate  Post-bac/Credential  Graduate

**NEW**

Prefix IT Course# 464 Title Computer Graphics for IT Units (3)  
 3 hours lecture per week  
 hours blank per week

X Prerequisites: Comp151 and either Math 300 or Math 301  
 Consent of Instructor Required for Enrollment  
 Corequisites:

**Catalog Description** (Do not use any symbols):  
 Fundamental concepts of computer graphics. Graphics devices; graphics languages; interactive systems. Applications to art, science, engineering and business. Trade-offs between hardware devices and software support.

General Education Categories   
 Lab Fee Requested

Graded CR/NC  Repeatable for up to  units Total Completions  Multiple Enrollment in same semester

X A - F  Optional (Student's choice)

Course Level:   
 X Undergraduate  Post-bac/Credential  Graduate

**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>24</u>            | y                    | Lecture       | <u>3</u>             | <u>1</u>             | <u>24</u>            | y                    | <input type="text"/>        |
| Seminar       | <input type="text"/> | <u>1</u>             | <input type="text"/> | <input type="text"/> | Seminar       | <input type="text"/> | <u>1</u>             | <input type="text"/> | <input type="text"/> | <input type="text"/>        |
| Lab           | <input type="text"/> | <u>3</u>             | <input type="text"/> | <input type="text"/> | Lab           | <input type="text"/> | <u>3</u>             | <input type="text"/> | <input type="text"/> | <input type="text"/>        |
| Activity      | <input type="text"/> | <u>2</u>             | <input type="text"/> | <input type="text"/> | Activity      | <input type="text"/> | <u>2</u>             | <input type="text"/> | <input type="text"/> | <input type="text"/>        |
| Field Studies | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | Field Studies | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>        |
| Indep Study   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | Indep Study   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>        |
| Other blank   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | Other blank   | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/>        |

**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 BSIT

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

**NEW**

This course is an elective for the BSIT

- Requirement for the Major/Minor
- 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**

1. Identify the components of a computer graphics system.
2. Be able to analyze the Perspective Projection.
3. Identify the advantages of a Raster Graphics system.
4. Identify the advantages of a Vector Graphics system.
5. Be able to evaluate the trade offs between different graphic display systems.
6. Be able to compare and evaluate different computational methods in computer graphics.
7. Organize and express ideas clearly and convincingly in oral and written forms.

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

**NEW**

1. Identify the components of a computer graphics system.
2. Analyze the Perspective Projection.
3. Identify the advantages of a Raster Graphics system.
4. Identify the advantages of a Vector Graphics system.
5. Evaluate the trade offs between different graphic display systems.
6. Compare and evaluate different computational methods in computer graphics.
7. Organize and express ideas clearly and convincingly in oral and written forms.

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

**OLD**

1. Components of a Computer Graphics System.
2. Perspective Projection.
3. Vector Graphics.
4. Raster Graphics
5. Computational Methods.

**NEW**

1. Components of a Computer Graphics System.
2. Perspective Projection.
3. Vector Graphics.
4. Raster Graphics
5. Computational Methods.

- 6. 2D Simulations.
- 7. 3D Simulations.
- 8. Virtual Reality.

- 6. 2D Simulations.
- 7. 3D Simulations.
- 8. Virtual Reality.

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**

- 1. Fundamentals of Computer Graphics Peter Shirley A K Peters, Ltd. 2002 1568811241
- 2. OpenGL Game Programming Kevin Hawkins, Dave Astle Premier Press 2004 0761533303
- 3. Computer Graphics: Principles and Practice in C Foley Addison-Wesley 1995 0201848406
- 4. 3D Computer Graphics Watt Addison-Wesley 1993 0201154420

**NEW**

- 1. Fundamentals of Computer Graphics Peter Shirley A K Peters, Ltd. 2002 1568811241
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- 3. Computer Graphics: Principles and Practice in C Foley Addison-Wesley 1995 0201848406
- 4. 3D Computer Graphics Watt Addison-Wesley 1993 0201154420

**9. Tenure Track Faculty qualified to teach this course.**  
**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.]**

- |   |   |
|---|---|
| <input type="checkbox"/> Course title                           | <input type="checkbox"/> Course Content                 |
| <input type="checkbox"/> Prefix/suffix                          | <input 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"/> |

X Prerequisites/Corequisites

Reactivate Course

Catalog description

Mode of Instruction

**Justification:** Updated prerequisites to reflect correct options

**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 15<sup>th</sup>**.

Peter Smith

**8/9/10**

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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:** IT464

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

|               |  |  |
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| 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

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| Center for Multicultural Engagement Director |  |  |
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Signature

Date

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|---|--|--|
| Center for Civic Engagement and Service Learning Director |  |  |
|---|--|--|

Signature

Date

|                  |  |  |
|------------------|--|--|
| Curriculum Chair |  |  |
|------------------|--|--|

Signature

Date

|                 |  |  |
|-----------------|--|--|
| Dean of Faculty |  |  |
|-----------------|--|--|

Signature

Date