

**California State University Channel Islands
New Course Proposal**

Program Area: Computer Science

1. Catalog Description of the Course.

IT 464 COMPUTER GRAPHICS FOR IT (3)

Three hours of lecture in the lab per week

Prerequisites: IT 151 and MATH 300

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.

2. Mode of Instruction.

	<u>Units</u>	<u>Hours per Unit</u>	<u>Benchmark</u>	<u>Enrollment</u>
Lecture	3	1		24
Seminar	0	0		0
Laboratory	0	0		0
Activity	0	0		0

3. Justification and Learning Objectives.

Justification: BSIT elective.

Learning Objectives:

Students who successfully complete this course will be able to:

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.

4. Is this a General Education Course?

No.

5. Course Content in Outline Form.

Topics:

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. Cross-listed Courses.

None.

7. References.

<u>Title</u>	<u>Author</u>	<u>Publisher</u>	<u>Year</u>	<u>ISBN</u>
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

8. Faculty Qualified to Teach This Course.

Qualified Faculty: Smith, Wolfe

9. Frequency.

Projected semesters to be offered: Fall, Spring

10. New Resources Required.

- a. New Equipment needs: Use of existing computer lab.
- b. New Library needs: none
- c. New Space/Facilities needs: none

11. Program Modifications.

None.

12. Proposer of Course.

Proposer: Smith, Wolfe Date: 7/13/2004