DATE: 8/20/2007 REV 1.29.08
PROGRAM AREA COMPUTER SCIENCE

1. **Catalog Description of the Course.** *[Follow accepted catalog format.]*
   (If Cross-listed please submit a form for each prefix being modified)

OLD	**NEW**
Prefix COMP Course# 425 Title Computer Game Programming Units (3) 3 hours Lecture per week hours per week	Prefix COMP Course# 425 Title Computer Game Programming Units (3) 3 hours Lecture per week hours per week
☒ Prerequisites COMP151 ☐ Corequisites Description 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.	☒ Prerequisites COMP 429 and COMP 464 ☐ Corequisites Description 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.

OLD:
Graded
☐ Gen Ed Categories ☐ CR/NC ☐ Repeatable for up to
☐ Lab Fee Required ☒ A - F units
Hegis Code ☐ Optional (Student's choice) ☐ Multiple Enrollment in same semester

NEW:
Graded
☐ Gen Ed Categories ☐ CR/NC ☐ Repeatable for up to
☐ Lab Fee Required ☒ A - F units
☐ Optional (Student's choice) ☐ Multiple Enrollment in same semester

☐ Mission Based Learning Objectives: ☐ Interdisciplinary ☐ International ☐ Multicultural ☐ Service Learning
☐ Title V Section 40404: ☐ Government ☐ US Constitution ☐ US History

2. **Mode of instruction (Hours per Unit are set for you)**

	Existing					**Proposed**			
	Units	Hour Per Unit	Benchmark Enrollment	CS# Units (filled out by Dean)		Units	Hour Per Unit	Benchmark Enrollment	CS# Units (filled out by Dean)
Lecture	3	1	20	____	Lecture	3	1	20	____
Seminar	____	1	____	____	Seminar	____	1	____	____
Laboratory	____	3	____	____	Laboratory	____	3	____	____
Activity	____	2	____	____	Activity	____	2	____	____

3. **Course Content in Outline Form if Being Changed.** *[Be as brief as possible, but use as much space as necessary]*

   OLD   **NEW**

4. **Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

   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,

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5. **References.** *[Provide 3-5 references on which this course is based and/or support it.]*

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

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6. **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
   ☐ Catalog description
   ☐ Course content
   ☐ References
   ☐ GE
   ☐ Other

Justification With the lower division COMP151 Data Structures and Algorithms as the only prerequisite for the course, the students were not prepared adequately to handle the high-level complexities of software for computer games. A computer game requires integration of knowledge from several fields such as graphics and networking, and game development practices require familiarity with software engineering methodologies. The new prerequisites, COMP350 Software Engineering (implies COMP151), COMP429 Computer Networking, and COMP464 Computer Graphics I, will ensure that the students are equipped with all knowledge necessary for implementing all element of a modern computer game in one semester.

7. **If this modification results in a GE-related change indicate GE category affected and Attach a GE Criteria Form:**
   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) ☐
UD Interdisciplinary ☐

8. New Resources Required. YES ☐ NO ☒
 If YES, list the resources needed and obtain signatures from the appropriate programs/units on the consultation sheet below.

  a.   Computer (data processing), audio visual, broadcasting needs, other equipment)

  b.   Library needs

  c.   Facility/space needs

9. Will this course modification alter any degree, credential, certificate, or minor in your program? YES ☐ NO ☒
   If, YES attach a program modification form for all programs affected.

10. Effective Date (Semester and Year): Spring'07

AJ Bieszczad   8/20/2007
Proposer of Course Modification   Date

Approvals
Program/Course:

_____

Program Chair(s)   Date

_____

General Education Chair(s)   Date

_____

Curriculum Committee Chair(s)   Date

_____

Dean of Faculty   Date