GAVILAN COLLEGE

5055 Santa Teresa Blvd
Gilroy, CA 95020

Course Outline

COURSE: CSIS 56   **DIVISION:** 50   **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2011   **Inactive Course**

SHORT TITLE: GAME PROGRAMMING

LONG TITLE: Game Programming

Units	Number of Weeks	Type	Contact Hours/Week	Total Contact Hours
4	18	Lecture:	3	54
		Lab:	3	54
		Other:	0	0
		Total:	6	108

COURSE DESCRIPTION:

This course is an introduction to game programming using Windows game programming tools, using graphics, animation, sound and input devices. The class is a hands-on class where the student will use the basic tools and techniques to create original games. This course has the option of a letter grade or pass/no pass. May be repeated three times for credit. ADVISORY: CSIS 51 Visual Basic Programming or similar programming experience.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES
        L - Standard Letter Grade
        P - Pass/No Pass

REPEATABILITY: R - Course may be repeated
Maximum of 3 times

SCHEDULE TYPES:
        02 - Lecture and/or discussion
        03 - Lecture/Laboratory
        04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. Select game playing hardware and software.
ILO: 3, 2,1, 5
Measure: Projects, homework, and quizzes
2. Create game programs with sound, graphics, and action.
ILO: 7, 5, 3, 2, 1
Measure: Projects, homework, and tests
3. Create game program libraries that can be used with other games.
ILO: 3,7,2,1,5
Measure: Projects, homework, and test

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS
Inactive Course: 09/26/2011
Students repeating this class will learn features of new software and
hardware under guidance of an instructor.
Week 1-2   6/6 Hours
Lecture:
Game programming basics: hardware and software.
Learning Visual Basic
Homework/Lab:
Read the chapters covered in the class lectures, and do the homework at
the end of the chapters.
Do homework and programs assigned in lecture on game programming.
Performance objectives:
Select and evaluate software and hardware for developing computer
games.
Select the software version they want to use, and start to learn the
language.
Week 3-4   6/6 Hours
Lecture:
Visual Basic objects and code
Using Windows Applications Programming Interface (API)
Using API to create points, lines, rectangles, circles, bitmaps, and
other objects.
Homework/Lab:
Read the chapters covered in the class lectures, and do the homework at
the end of the chapters.
Do homework and programs assigned in lecture on game programming.
Performance objectives:
Write computer games using VB.
Use Windows Applications Programming Interface (API) to create
programs.
Create points, lines, rectangles, circles, bitmaps, and other objects.
Week 5-6   6/6 Hours
Lecture:
Designing for efficiency and optimizing code
Object -Oriented programming
Using DirectX
Homework/Lab:

Read the chapters covered in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Write efficient programs and do time tests on the programs.

Write game programs using Object -Oriented programming.

Use DirectX with VB to write more interesting programs.

Week 7-8   6/6 Hours

Lecture:

Bitmap handling in VB and Windows

Sprite properties and functionality

Homework/Lab:

Read the chapters covered in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Use VB and Windows bitmaps.

Write game programs with sprites.

Week 9-10   6/6 Hours

Lecture:

Using high-speed animation

Using DirectDraw

Mid-term projects and quizzes.

Homework/Lab:

Read the chapters covered in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Write game programs using high animation, double buffering and arcade-style scrolling.

Write game programs using DirectDraw surfaces

Week 11-12   6/6 Hours

Lecture:

Introducing sound and music

Handling user input

Homework/Lab:

Read the chapters cover in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Write game programs using with sound and music

Write game programs using user input from the keyboard, mouse, and joystick.

Week 13-14   6/6 Hours

Lecture:

Creating game libraries

using graphics and sprites in 3-D games.

Homework/Lab:

Read the chapters covered in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Create game libraries that can be used with other programs.

Write 3-D game programs using graphics and sprites.

Week 15-16   6/6 Hours

Lecture:

Using artificial intelligence, computer player control, and smart opponents

Using multiplayer programming, sockets, and socketchat.

Homework/Lab:

Read the chapters covered in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Write game programs using artificial intelligence, computer player control, and smart opponent

Write game programs using multiplayer programming, sockets, and socketchat

Week 17   3/3 Hours

Lecture:

Introduction to DirectPlay

Game design basics, development phases, and post-production

Block attack, shooter, and combat games

Homework/Lab:

Read the chapters cover in the class lectures, and do the homework at the end of the chapters.

Do homework and programs assigned in lecture on game programming.

Performance objectives:

Write plans for development and post production of games

Write block attack, shooter, and combat game programs

Week 18   2 Hours

Final projects and test

ASSIGNMENTS:

See content section of course outline.

METHODS OF INSTRUCTION:

Lecture, game examples, sample programs, quizzes, tests.

METHODS OF EVALUATION:

This is a degree-applicable course, but substantial writing assignments are NOT appropriate, because the course primarily:

Involves skill demonstrations or problem solving

The problem-solving assignments required:

Homework problems

Quizzes

The types of skill demonstrations required:

Class performance
Performance exams
The types of objective examinations used in the course:
Multiple choice
True/false
Matching items
Completion
Other category:
None
The basis for assigning students grades in the course:
Writing assignments: 0% -   0%
Problem-solving demonstrations: 40% - 80%
Skill demonstrations: 30% - 60%
Objective examinations: 10% - 30%
Other methods of evaluation: 0% -   0%

REPRESENTATIVE TEXTBOOKS:

"Microsoft Game Playing with DirectX" by Jonathan Harbour Premier
Press, 2002, or other appropriate college level text.
Reading level of text: 12 grade. Verified by: dvt
Other Materials Required to be Purchased by the Student: Storage disk

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:
CSU GE:
IGETC:
CSU TRANSFER:
Transferable CSU, effective 200570
UC TRANSFER:
Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N
Classification: I
Noncredit Category: Y
Cooperative Education:
Program Status: 1 Program Applicable
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department: CSIS
CSU Crosswalk Course Number: 56
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: D

Maximum Hours:
Minimum Hours:
Course Control Number: CCC000356482
Sports/Physical Education Course: N
Taxonomy of Program: 070710