Wharton County Junior College

Administrative Master Syllabus

Course Information

Course Title	Advanced Game Programming
Course Prefix, Num. and Title	GAME 2347 – Advanced Game Programming
Division	Technology & Business
Department	Computer Science
Course Type	WECM Course
Course Catalog Description	Optimization of student-created games.
Pre-Requisites	None
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours: Lab/Other Hours	3:2:2
Equated Pay Hours	3
Lab/Other Hours Breakdown: Lab Hours	2
Lab/Other Hours Breakdown: Clinical Hours	N/A
Lab/Other Hours Breakdown: Practicum Hours	N/A
Other Hours Breakdown	N/A

Approval Signatures

Title	Signature	Date
Prepared by:	Stephen Lyford Digitally signed by Stephen Lyford Date: 2020.04.27 14:36:57 -05'00'	04/27/2020
Department Head:	Stephen Lyford Digitally signed by Stephen Lyford Date: 2020.04.27 14:37:08 -05'00'	04/27/2020
Division Chair:	David Kucera Digitally signed by David Kucera DN: cn=David Kucera, o=Wharton County Junior College, ou=Division of Technology and Business, email=davidk@wcjc.edu, c=US Date: 2020.05.13 12:55:00 -05'00'	05/13/2020
Dean/VPI:	Paul J. Quinn Digitally signed by Paul J. Quinn Date: 2020.05.15 09:25:51 -05'00'	5/15/20
Approved by CIR:	Paul J. Quinn Digitally signed by Paul J. Quinn Date: 2020.05.15 09:26:18 -05'00'	2/27/20

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Game Objects and 2D Graphics
Vectors and Basic Physics
Artificial Intelligence
OpenGL
3D Graphics
Audio
Input Systems
Cameras
Collision Detection
User Interfaces
Skeletal Animation
Intermediate Graphics
Level Files and Binary Data

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

Perform tuning, debugging, designing and testing of software; utilize object-oriented architecture design, implement practices for game play within the software; oversee asset management; and utilize best coding practices.

Methods of Assessment:

Individual Projects, Programming Assignments, Exams, Group Projects, Written Assignments

Required text(s), optional text(s) and/or materials to be supplied by the student:

- Game Programming in C++: Creating 3D Games, 1st Edition, Sanjay Madhav, Publisher: Addison-Wesley, ISBN 9780134597201
- USB Flash Drive
- High-speed Internet Connection

Suggested Course Maximum:

20

List any specific or physical requirements beyond a typical classroom required to teach the course.

- Computer for each student
- Microsoft or third party C# compiler integrated Development Environment installed
- Unity Game Engine IDE installed on each student computer

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

Programming Assignments 20-60%
Final Project 20-40%
Midterm Exam 0-40%
Final Exam 20-40%
Attendance & Participation 0-20%

Grading System

100-90	A
89-80	B
79-70	C
69-60	D
and below	F

Curriculum Checklist:

☐**Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.

☐**Administrative WCJC Core Course**. Attach the Core Curriculum Review Forms

- ☐Critical Thinking
- ☐Communication
- ☐Empirical & Quantitative Skills
- ☐Teamwork
- ☐Social Responsibility
- ☐Personal Responsibility

☒**WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist