COUNTY COLLEGE OF MORRIS
Course Information Outline

Course Title Game Programming **PREFIX&NUMBER** CMP 150

Lecture Hours 2 **Laboratory Hours** 2 **Credit Hours** 3 **Course Fee** $40

Department Chairperson Approval [signature] **Date** 11/20/12

Division Dean Approval [signature] **Date** 11/30/12

General Education Information:

Categories:

☐ Communications ☐ History ☐ Humanities ☐ Mathematics
☐ Science ☐ Social Science ☐Technological Competency
☐ Diversity *(check if course also meets diversity category)*

Integrated Goals: *(check all that apply)*

☐ Ethical Reasoning and Action ☐ Information Literacy

1. **Catalog Course Description**
   This course covers fundamental game programming techniques using an industry-standard scripting language. Students will learn how to use a popular game engine to build game programs. Topics include sprites, animation, collisions, timers, game state variables, player input, audio, user interface design, and storyboarding. Laboratory work includes several game element programming exercises, leading up to a final game project.

2. **Prerequisite(s)**
   CMP 113 or CMP 128, Computer Science I

3. **Co-requisite(s)**
   None

4. **Textbooks**
   The Game Programmer's Guide to Torque, Maurina,Edward, GC Press, 2006.

5. **Supplementary Books and/or Materials**
   3D Game Programming All in One, Finney, Kenneth, Thomson Course Technology, 2004.
   XNA Game Studio Express, Hall, Joseph, Thomson Course Technology, 2008 or current editions

6. **Specialized equipment, supplies, facilities, for classes limited by enrollment or restricted by accreditation and/or equipment limitations.** (Information will be used to determine differential funding category.)
   Requires computers equipped with graphic cards capable of running advanced graphics and animation, specialized game engine software and specialized game development software development kits.

7. **Course Content (List of Topics)**
   Week 1 – Introduction to Course and Course Objectives
   2D Game Examples Analysis

Introduction to 2D Game Engine – development process, file management, game engine programming language introduction
Week 2 – Backgrounds, layers, sprites & movement
Week 3 – Particle Effects, Behaviors
Week 4 – 2D Graphical User Interface
Week 5 – 3D Game Engine Examples Analysis
Introduction to 3D Game Engine
Week 6 – Level Editing, Collisions
Week 7 – Particle System, Weapons & Damage, Artificial Intelligence
Week 8 – Audio: special effects, soundtracks
Week 9 – 3D Graphical User Interface
Week 10 – Introduction to Graphical Application Programming Interface
Device management, window creation, drawing primitives
Week 11 – Drawing complex images, index and vertex buffers
Week 12 – Transformations
Week 13 – Camera and lighting
Week 14 – User input
Week 15 – Special Topics
Week 16 – Project Demonstrations

8. Statement of Course LEARNING OUTCOMES

To successfully complete this course, students must:

- Create a game software utilizing various industry tools and techniques.
- Demonstrate research and experimentation skills by extending class projects and assignments.

9. Statement of Relation to Curriculum(s)

Required for Game Development Option 3504; CMP Elective for all other Information Technologies Options

10. Format for offering the course (check all that apply)

☒Traditional **On-Line** **Hybrid**