



**KENTUCKY STATE
UNIVERSITY**

DIGITAL GAMING (DGE)

DGE 275: Game Programming Foundation I

Students learn about the major components of modern simulations and games from both a design perspective and a technical perspective. Topics covered include: fundamentals of simulation/gaming, user interface design, human computer interaction, input/output paradigms, and an overview of simulation/game design process. Lab activities are designed to foster critical thinking and problem solving skills through the development of an understanding of the development process as well as interactive programming techniques through the creation of working interactive programs in a high level programming language.

Prerequisite: COS 109. this course introduces students to the rigorous field of interactive simulation and gaming

Credit Hours: 4

Contact Hours: 4

DGE 300: Software Eng Computing Games

This course teaches students the basic skills of software engineering. The course will cover topics in software processes, software development tools, software design, testing and management. The contents will be provided with the intent to develop computer games in a team environment.

Credit Hours: 3

Contact Hours: 3

DGE 375: Game Programming Foundation II

Prerequisite: COS 275. This course is a continuation of the Gaming I, and students will learn to build up on the previous knowledge. They will learn the advanced level material such as Graphics, Sound and Animations. they will build professional looking user interfaces and will use GUI for interactive simulation and gaming.

Credit Hours: 3

Contact Hours: 3

DGE 380: Online Game Development

This course provides essential language of online game development. This course addresses online game development from the web as a complex, multi-faceted, service-oriented business, instead of focusing solely on technical, artistic, or game techniques.

Prerequisite: COS 108, COS 109

Credit Hours: 3

Contact Hours: 3

DGE 385: Gaming and Computer Graphics

Topics in two and three-dimensional graphics, along with a modern 3D graphics API. Introduction to the foundations of three-dimensional display: projections, geometric transformations, scan conversion, clipping, lighting, shading, and texturing. Credit: 4 semester hours.

Prerequisite: COS 275

Credit Hours: 4

Contact Hours: 4

DGE 475: Game Design and Development

Prerequisite: COS/DGE 375. This course involves the study of the technology, science and storytelling involved in the creation of computer games. It will emphasize hands-on development of games. Relevant software technologies including programming languages and simulation engines will be discussed. We assume significant programming experience and knowledge of programming language concepts. We also assume students can learn new programming concepts and systems on their own (direct, OpenGL).

Credit Hours: 3

Contact Hours: 3

DGE 476: Mobile Game Development

Prerequisites: COS 108, COS 109. this course teaches students the basic skills in programming in the area of mobile devices and will be able to develop games.

Credit Hours: 3

Contact Hours: 3

DGE 485: Virtual Reality

Prerequisites: COS 108, COS 109, COS 275. this course addresses Virtual Reality (VR) interface techniques and programming. Topics include physical interface devices, methods of manipulating a virtual world, evaluating VR applications, and programming VR applications. Students will create their own VR applications.

Credit Hours: 3

Contact Hours: 3

DGE 495: Interactive Gaming Project

Prerequisite: COS/DGE 475. Interactive gaming puts into practice all of the information and knowledge gained in the previous course. In this sequence the student first identifies, then builds, the necessary components for a full working 3D simulation/game engine. We assume significant programming experience and knowledge of programming language concepts. We also assume students can learn new programming concepts and systems on their own (direct, OpenGL).

Credit Hours: 3

Contact Hours: 3