COURSES

SIMULATION GAME DEVELOPMENT (SGD)

SGD 111   Introduction to Simulation and Game   3.0 UNITS
This course provides students with an introduction to simulation and game development. Topics include setting, storytelling, narrative, character design, interface design, game play, internal economy, core mechanics, game genres, AI, the psychology of game design and professionalism. Upon completion, students should be able to demonstrate knowledge of the major aspects of simulation and game design and development.

SGD 112   SGD Design I   3.0 UNITS
This course introduces the fundamentals of simulation and game design. Topics include industry standards and design elements for simulation and games. Upon completion, students should be able to design simple simulations and/or games.

SGD 113   SGD Programming I   3.0 UNITS
This course introduces the fundamentals of programming languages and tools employed in simulation and game development. Emphasis is placed on programming concepts used to create simulations and games. Upon completion, students should be able to program simple games and/or simulations.

SGD 114   SGD 3D Modeling I   3.0 UNITS
This course introduces the tools required to create three-dimensional (3D) models. Emphasis is placed on exploring tools used to create 3D models. Upon completion, students should be able to create and animate 3D models using 3D modeling tools.

SGD 116   SGD Graphic Design Tools   3.0 UNITS
This course introduces students to computer-based graphic design tools and their use within the context of simulation and game design. Topics include texture creation, map creation, and introduction to advanced level graphic design techniques. Upon completion, students should be able to competently use and explain industry-standard graphic design software.

SGD 125   Simulation and Game Artificial   3.0 UNITS
This course introduces the artificial intelligence concepts related to simulation and game development. Emphasis is placed on expert systems. Upon completion, students should be able to describe the basic concepts and procedures related to the development of artificial intelligence systems used in simulation and games.

SGD 161   SGD 2D Animation   3.0 UNITS
This course introduces the fundamental principles of animation used in simulation and game development. Emphasis is placed on historical survey of animation, aspects of the animation process and animation techniques. Upon completion, students should be able to produce character sketches, morph simple objects, create walk and run cycles and develop professional storyboards.

SGD 162   SGD 3D Animation I   3.0 UNITS
This course introduces the fundamental principles of 3D animation used in simulation and game development. Emphasis is placed on a historical survey of 3D animation, aspects of the 3D animation techniques. Upon completion, students should be able to produce 3D character sketches, morph simple objects, create walk and run cycles and develop professional storyboards.

SGD 164   SGD Audio/Video   3.0 UNITS
This course introduces various aspects of audio and video and their application in simulations and games. Topics include techniques for producing and editing audio and video for multiple digital mediums. Upon completion, students should be able to produce and edit audio and video for simulations and games.

SGD 165   SGD Character Development   3.0 UNITS
This course introduces the concepts needed to create fictional personalities for use in digital videos, animations, simulations, and games. Topics include aspects of character, developing backgrounds, mannerisms, and voice. Upon completion, students should be able to develop characters and backgrounds for simulations and games.

SGD 212   Simulation and Game Development   3.0 UNITS
This course covers the advanced principles of simulation and game design. Topics include advanced design concepts in simulation and game development. Upon completion, students should be able to design an advanced simulation or game.

SGD 213   Simulation Game Development Programming   3.0 UNITS
This course covers advanced programming concepts used to create simulations and games. Emphasis is placed on acquiring advanced programming skills for use in creating simulations and games. Upon completion, students should be able to program an advanced simulation or game.

SGD 214   SGD 3D Modeling II   3.0 UNITS
This course introduces the tools used to create and animate advanced 3-dimensional models. Emphasis is placed on identifying and utilizing the tools required to create and animate advanced 3D models. Upon completion, students should be able to create and animate advanced 3D models using 3D modeling tools.

SGD 244   SGD 3D Modeling III   3.0 UNITS
This course is designed to further a student's knowledge in creating visually compelling 3D models through the use of industry-standard software. Emphasis is placed on learning how to develop accurate textures and normal maps. Upon completion, students should be able to develop industry-caliber 3D models.

SGD 285   SGD Software Engineering   3.0 UNITS
This course introduces object-oriented software engineering concepts related to simulation and game development. Topics include systematic approaches to the development, operation and maintenance of simulations and games. Upon completion, students should be able to apply software engineering techniques to the development of simulations and games.

SGD 289 **Simulation and Game Development Project** **3.0 UNITS**
This course provides students with the opportunity to create a functional simulation or game with minimal instructor support. Emphasis is placed upon verbal and written communication, skill documentation, professional presentation and user training. Upon completion, students should be able to create and professionally present a fully functional simulation or game.