

SIMULATION AND GAME DEVELOPMENT

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 111	Introduction to SGD	2	3	3
Prerequisites:	None			
Corequisites:	None			

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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 112	SGD Design	2	3	3
Prerequisites:	None			
Corequisites:	None			

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

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 113	SGD Programming	2	3	3
Prerequisites:	None			
Corequisites:	None			

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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 114	3D Modeling	2	3	3
Prerequisites:	None			
Corequisites:	None			

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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 122	SG Database Programming	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course covers the creation and application of databases for simulation and game development. Emphasis is placed on various database and software development kits. Upon completion, students should be able to apply their knowledge of databases to the creation of simulations and games.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 123	Windows/Console Prog	2	3	3
Prerequisites:	SGD 113			
Corequisites:	None			

This course introduces the concepts of Windows and Consol Programming. Emphasis is placed on learning MS Windows, the operating systems of various consoles and programming techniques. Upon completion, students should be able to demonstrate an understanding of Windows and of various consoles' operating systems.

*Effective Term - Spring 2006 [2006*01] – SBCC 02/17/06*

SGD 124	MMO Programming	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the concepts of Massive Multiplayer On-line Programming for simulations and games. Emphasis is on learning Massive Multiplayer On-line simulation and game programming techniques. Upon completion, students should be able to create a Massive Multiplayer On-line simulation or game.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 124	MMO Programming	2	3	3
Prerequisites:	SGD 121			
Corequisites:	None			

This course introduces the concepts of Massive Multiplayer On-line Programming for simulations and games. Emphasis is on learning Massive Multiplayer On-line simulation and game programming techniques. Upon completion, students should be able to create a Massive Multiplayer On-line simulation or game.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 125	SG Artificial Intellig	2	3	3
Prerequisites:	None			
Corequisites:	None			

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 simulations and games.

*Effective Term - Spring 2006 [2006*01] – SBCC 02/17/06*

SGD 126	SG Engine Design	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the techniques needed to design and create a simulation/game engine. Emphasis is placed on learning core techniques used to design and create simulation and/or game engines. Upon completion, students should be able to design and create a simulation or game engine.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 126	SG Engine Design	2	3	3
Prerequisites:	SGD 121			
Corequisites:	None			

This course introduces the techniques needed to design and create a simulation/game engine. Emphasis is placed on learning core techniques used to design and create simulation and/or game engines. Upon completion, students should be able to design and create a simulation or game engine.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 161	SG Animation	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the fundamental principles of animation used in simulation and game development. Emphasis is placed on a 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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 162	SG 3D Animation	2	3	3
Prerequisites:	None			
Corequisites:	None			

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 process and 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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 163	SG Documentation	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the techniques and methods used to create simulation and game production and design documents. Emphasis is placed on the design document to include scheduling, production plans, marketing and budgeting. Upon completion, students should be able to create design and produce documents for any simulation or game.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 169	Linux SG Programming	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the concepts of Linux programming for use in simulation and game development. Emphasis is placed on Linux programming and tools. Upon completion, students should be able to create a simple game or simulation using Linux.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 170	Handheld SG Programming	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the concepts of hand-held simulation and game development. Emphasis is placed on hand-held game API, including stylus input, system buttons, infrared communications, audio / visual creation and the physics of hand-held game API. Upon completion, students should be able to create a simple simulation or game for a hand-held device.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 171	Flash SG Programming	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the Flash programming environment for use in simulation and game development. Topics include timeline effects, extensibility layers, alias text, globalization tools, ActionScript and lingo programming. Upon completion, students should be able to create a simple simulation or game using Flash.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 172	Virtual SG Environments	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course covers the use of virtual reality tools and techniques in simulation and game development. Emphasis is placed on acquiring the skills necessary to create scalable virtual characters and environments for use in simulations and games. Upon completion, students should be able to create a simple game or simulation in a virtual environment.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 173	Lighting/Shading Algori	2	3	3
Prerequisites:	SGD 214			
Corequisites:	None			

This course introduces the concepts of various lighting and shading algorithms for use in simulation and game development. Topics include various tools used to create light and shadows. Upon completion, students should be able to apply knowledge of various lighting and shading algorithms to the creation of simulations and games.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 174	SG Level Design	2	3	3
Prerequisites:	None			
Corequisites:	None			

This course introduces the tools used to create levels for real-time simulations and games. Topics include level design, architecture theory, modeling for 3D engines and texturing methods. Upon completion, students should be able to design simple levels using industry standard tools.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 212	SGD Design II	2	3	3
Prerequisites:	SGD 112			
Corequisites:	None			

The 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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 213	SGD Programming II	2	3	3
Prerequisites:	SGD 113			
Corequisites:	None			

The 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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 214	3D Modeling II	2	3	3
Prerequisites:	SGD 114			
Corequisites:	None			

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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 274	SG Level Design II	2	3	3
Prerequisites:	SGD 174			
Corequisites:	None			

This course introduces the advanced tools used to create levels for real-time simulations and games. Topics include advanced level design and architecture theory, concepts related to "critical path" and "flow," game balancing, playtesting and storytelling. Upon completion, students should be able to design complex levels using industry standard tools.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 285	SG Software Engineering	2	3	3
Prerequisites:	SGD 212, SGD 213, and SGD 214			
Corequisites:	None			

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.

*Effective Term - Spring 2006 [2006*01] – SBCC 10/21/05*

SGD 289	SGD Project	2	3	3
Prerequisites:	SGD 285			
Corequisites:	None			

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.

See the SEL and SEM prefixes for generic Selected Topics and Seminar course descriptions.