GDD 1100 - introduction to Game Development

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Introduces students to basic game development topics through game design and implementation activities. Students design, implement, and test computer games using drag-and-drop game creation tools. A small amount of programming is required. Req., GDD and PREN majors only. Meets with CS 1100.

GDD 1200 - Introductory Programming for Game Developers

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Introduction to programming in the context of game development. Develops methods for problem solving, including the effective use of abstraction. Develops programming proficiency in a modern, object-oriented programming language. Students design, implement, and test various games and game components. Prer: Cs or GDD 1100; GDD 1200

GDD 2100 - Game Design for Diverse Populations

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Explores the various game design decisions required when targeting games for various diverse populations. Students will learn how to consider gender, ethnicity, and other diversity dimensions through numerous game design projects. Prer., CS 1100/GDD 1100 or GDD 1200. Restricted to Game Design and Development majors, undecided engineering majors, and pre-engineering majors.

GDD 2150 - Fundamental Game Design Concepts

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Teaches fundamental game design concepts, including character development, storytelling, game balancing, and general level design principles. Also shows how these concepts apply to the most common game genres, as well as addressing the specific issues associated with each genre. Approved for Compass Curriculum requirement: Writing Intensive.

GDD 2200 - Object-Oriented Analysis, Design, and Implementation

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Students learn object-oriented analysis and design techniques including domain modeling, use case development, and sequence and class diagram creation in the game domain. Students implement their design in a small game. A variety of data structures are also covered. Prer., GDD 1200.

GDD 3000- Special Topics in Game Design

Units: 3 units

Grading Basis: Letter

Course Components: Lecture Required

Description: An opportunity for students to study special topics in Game Design. Course is focused on the development and application of game design skills. Topics offered will cover special interest subject or rapidly changing areas in the field. Students may take the course several times for credit.

GDD 3100 - User Interface Design for Games

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: This course introduces students to the design, implementation, and evaluation of human-computer interfaces, with an emphasis on games and immersive environments. Topics include traditional and non-traditional interfaces, design and evaluation of interactive systems, psychological considerations of interaction, interactive hardware design and special input/output techniques. Prer., GDD 1200 and GDD 2150

GDD 3200 - Team-Based Game Test & Development

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Students continue working on an existing game. The course work includes Alpha testing by team members, BETA testing (open to larger community than the development team), implementing changes to the game as required, and final deployment of the game. Req., GDD 2150, CS 3350.

GDD 3300 - Modeling and Simulation for Games

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Teaches students about the issues associated with simulating worlds and experiences in conjunction with the modeling of specific events in those worlds. The course takes a practical approach to how game developers in particular can perform effective modeling and simulation. The foundations laid in this course are particularly important in serious games, where accurate modeling tends to be critical, though the concepts apply for games designed for entertainment as well. Prer., GDD 2200.

GDD 3400 - Artificial Intelligence for Games

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: The purpose of this course is to teach the Artificial Intelligence techniques that are most important in game development. Topics include Finite State Machines, pathfinding, emergent behavior, and other pertinent topics. The course also shows how these concepts apply to the most common game genres, as well as addressing the specific issues associated with each genre. Prer., CS 2250; PES 1110, CS 2300 or MATH 3130.

GDD 3600 - Developing Serious Games

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Teaches students about the issues associated with developing serious games -- games that "have an explicit and carefully thought-out educational purpose and are not intended to be played primarily for amusement." Serious Games include military games, government games, educational games, healthcare games, and other classes of games. Prer., GDD 1200, GDD 2150.

GDD 4000 - Special Topics in Game Programming.

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: An opportunity for students to study special topics in Game Design and Development. Topics offered will cover special interest subjects or rapidly changing areas in the field. Students may take the course several times for credit. Prer., CS 2250

GDD 4200 - Flash Game Development

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Flash is the technology of choice for developing web-based games. This course teaches students how to use Flash and ActionScript to develop web-based games through a variety of game development projects. Prer., GDD 2200.

GDD 4500 - Online Game Development

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Teaches students about the important issues associated with developing and launching online games. Topics include both the technical challenges associated with online games and gameplay issues such as forming an online community and developing effective player interaction models. Also includes a significant review of both successful and unsuccessful online games. Prer., CS 2250.

GDD 4800 - Real-Time Procedural Graphics

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: This course will cover state of the art techniques for generating realistic real-time graphics and procedural techniques for real-time graphics, visualization, and modeling. The class will cover topics ranging from realistic rendering techniques for games, next-generation PC graphics hardware, and game consoles to non-photorealistic procedural techniques for enhancing visualization and simulating natural phenomena. Prer., GDD 3300.

GDD 4900 - Commercial Game Development Practicum

Units: 3 units

Grading Basis Letter

Course Components Lecture Required

Description: Students in this course individually design and develop a game available to the public for purchase or free play. Developed games will be unique student Intellectual Property and will be commercial-quality implementations of student game concepts. Req., Senior standing. GDD Majors only.

GDD 4990 - Independent Study in Game Design and Development

Units: 1 - 3 units

Grading Basis Letter

Course Components Independent Study Required

Description: Independent study of a student-selected topic in the game design and development domain. Req., Instructor permission required.