

# ANIMATION GAME DESIGN (AGD)

## AGD 11003 SOLID MODELING 3 Credit Hours

Instruction given in the best usage approaches for parametric design philosophy through a hands-on, practice-intensive curriculum. Students acquire the knowledge needed to complete the process of designing models from conceptual sketching to solid modeling, assembly design and drawing production with rendering techniques for presentation.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 12000 TWO DIMENSION GRAPHICS 3 Credit Hours

Introductory course for creation of two-dimension graphics using vector and raster imaging for use in mapping and character development in animation and gaming.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 12001 MODELING AND TEXTURING I 3 Credit Hours

Introduction to the basic concepts of three-dimension modeling and animation. Topics include terminology, techniques of creating textures and imaging for mapping, three-dimension modeling, lighting, shading and rendering.

**Prerequisite:** AGD 12000 with a minimum grade of C; and Animation Game Design major or Game Design minor or Modeling and Animation minor.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 21000 FUNDAMENTALS OF MIXED REALITY 3 Credit Hours

Course explores the fundamentals of virtual and augmented reality available today (education, medical, games, architecture, etc.).

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 21092 ANIMATION AND GAME DESIGN PRACTICUM (ELR) 1-3 Credit Hours

(Repeatable for credit) Supervised work experience. One credit hour for 50 work hours.

**Prerequisite:** None.

**Schedule Type:** Practical Experience

**Contact Hours:** 3.333-10 other

**Grade Mode:** Satisfactory/Unsatisfactory

**Attributes:** Experiential Learning Requirement

## AGD 22000 TWO-DIMENSION COMMUNICATION 3 Credit Hours

Comprehensive training with 2D and 3D elements of computer-aided-design from the foundation to advanced techniques applicable to design in the graphics, mechanical, industrial and electronics fields.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 22001 MODELING FOR ARCHITECTURE 3 Credit Hours

Introduction to building information modeling (BIM) fundamentals using an industry-standard architectural software application, including creation of full 3D architectural project into working drawings.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 22004 MODELING AND TEXTURING II 3 Credit Hours

3D modeling and computerized techniques. Introduction to the basic concepts, terminology and techniques of 3D modeling, lighting, shading, imaging and animation.

**Prerequisite:** AGD 12001 with a minimum C grade.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 22005 MULTIMEDIA AND GAME DESIGN 3 Credit Hours

2D game development for pc and mobile devices, which includes the creation of flowcharts, roughs and interactive navigation systems.

Integration of images, animation, video, sound and custom C# coding

**Prerequisite:** AGD 12001.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 22010 DIGITAL SCULPTING 3 Credit Hours

This course will explore interactive 3D sculpting to create highly-detailed and realistic models for use in games, film, animation and illustration.

**Prerequisite:** Animation Game Design major or Game Design minor or Modeling and Animation minor.

**Corequisite:** AGD 12001.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

## AGD 22095 SPECIAL TOPICS IN ANIMATION AND GAME DESIGN 1-3 Credit Hours

(Repeatable for credit) Special topics in animation and game design. Repeated registration permitted.

**Prerequisite:** None.

**Schedule Type:** Lecture

**Contact Hours:** 1-3 lecture

**Grade Mode:** Standard Letter

## AGD 23020 GAMING AND CULTURE 3 Credit Hours

Familiarize students with the basic issues of culture and social aspects in different contexts including the relationship between culture and gaming. What is play, what is experiencing, and what are the cultural determinants that are at work in the process.

**Prerequisite:** Sophomore standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 23030 GAME PROTOTYPING 3 Credit Hours**

Hands-on project course where students will create 3 games that highlight different aspects of the game-making and prototyping process. Students will learn to create game prototypes with different types of media – paper prototypes, storytelling prototypes, simple level design, and others.

**Prerequisite:** AGD 12000 or CS 38101.

**Schedule Type:** Lecture

**Contact Hours:** 1 lecture, 2 lab

**Grade Mode:** Standard Letter

**AGD 33010 COMPETITIVE GAMING 3 Credit Hours**

Introduction to eSports cultures and exploration of streaming techniques and layouts. The business culture of eSports, developing teams, communities, competitive gaming, event marketing and organizing an eSports event.

**Prerequisite:** Junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 33030 GAMES FOR IMPACT 3 Credit Hours**

Hands-on project course where students learn how games are used for socially responsible purposes. Students choose a real-life problem to address, identify relevant research about the problem, then propose play-based solutions. This research informs the creation of a digital or non-digital game that educates players about the problem and how to address it.

**Prerequisite:** AGD 12000; and Animation Game Design major or Game Design minor or Modeling and Animation minor; and junior standing.

**Schedule Type:** Laboratory, Lecture, Combined Lecture and Lab

**Contact Hours:** 2.07 lecture, 2.93 lab

**Grade Mode:** Standard Letter

**AGD 33095 SPECIAL TOPICS ANIMATION AND GAME DESIGN 1-3 Credit Hours**

(Repeatable for credit) Topic varies per course offering.

**Prerequisite:** Animation and game design major.

**Schedule Type:** Lecture

**Contact Hours:** 1-3 lecture

**Grade Mode:** Standard Letter

**AGD 34000 CHARACTER ANIMATION 3 Credit Hours**

Continuation of the study and technology applications of computer animation with emphasis on camera usage and the production of a comprehensive animation project involving the animation thought process (ATP).

**Prerequisite:** AGD 22004.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 34001 ANIMATION PROJECT 3 Credit Hours**

Continued study of practical technology applications of computer animation with emphasis on scripting code writing, systems line variables and fluent realism factors within the ATP.

**Prerequisite:** AGD 34000.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 34003 ANIMATION THEORY 3 Credit Hours**

A comprehensive course covering the fundamentals of storytelling with animation and motion graphics. Coverage of concept development, pre-production, storyboarding, color and design.

**Prerequisite:** AGD 22004.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 34005 ENVIRONMENTAL GAME DESIGN 3 Credit Hours**

In this course, we will learn the essentials of game environment creation. We will look at how textures, terrains, foliage, particle effects, lighting and blueprinting work and are created in a computer-aided software. We will also learn to import 3D models in to our game environment.

**Prerequisite:** AGD 22004; and junior standing.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 43001 ANIMATION PRODUCTION AND VISUAL EFFECTS 3 Credit Hours**

A course dealing with the technical and business aspects of pre-and post production planning for multimedia video or film projects. Covers a systematic approach to content organization and development, scripting, visualization. We will explore effects such as particles and volumes (fire, smoke, liquids) inside 3D scenes as well as compositing effects.

**Prerequisite:** AGD 22004.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 43002 GRAPHICS DESIGN TECHNOLOGY 3 Credit Hours**

A course of study in the technology of creating knowledge and effects using computer-graphics concepts to create photo-realistic composite images and to restore and enhance a wide array of images.

**Prerequisite:** AGD 22004.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 43025 REAL-TIME RENDERING FOR ANIMATION 3 Credit Hours**

This course is designed to explore the workflow of real-time rendering in Unreal Engine to present stories and animation. This includes performance targets, interactivity and animation.

**Prerequisite:** AGD 34001 or AGD 34005.

**Schedule Type:** Lecture

**Contact Hours:** 3 lecture

**Grade Mode:** Standard Letter

**AGD 43092 INTERNSHIP IN ANIMATION AND GAME DESIGN (ELR) (WIC) 1-3 Credit Hours**

(Repeatable for credit) A credit-bearing work experience with educational outcomes, utilizing and enhancing a student's academic learning in practical occupational situations. The student is expected to complete pre-determined assignments, which may include a weekly journal, final paper, or an experience report. It is expected that the internship is different each time the course is taken.

**Prerequisite:** Animation Game Design major and junior standing; and special approval.

**Schedule Type:** Practical Experience

**Contact Hours:** 1-3 other

**Grade Mode:** Standard Letter

**Attributes:** Experiential Learning Requirement, Writing Intensive Course

**AGD 43096 INDIVIDUAL INVESTIGATION IN ANIMATION AND GAME DESIGN 1-3 Credit Hours**

(Repeatable for credit) Research or individual investigation in areas not covered in the existing curriculum for baccalaureate level students at or above the junior level.

**Prerequisite:** Special approval.

**Schedule Type:** Individual Investigation

**Contact Hours:** 1-3 other

**Grade Mode:** Standard Letter

**AGD 43099 GAME PROJECT (ELR) 3 Credit Hours**

Explore advanced concepts in Interactive 3D Game Design through a research and project-based course. This course centers on collaborative group project, guiding students in the creation of interactive objects, AI systems, user interfaces and playable 3D characters. The main objective is to develop a fully playable 3D game using Unreal Engine. This course is a continuation of AGD 34005.

**Prerequisite:** AGD 34005.

**Schedule Type:** Lecture, Project or Capstone

**Contact Hours:** 1 lecture, 2 other

**Grade Mode:** Standard Letter

**Attributes:** Experiential Learning Requirement

**AGD 49999 SENIOR CAPSTONE PROJECT (ELR) (WIC) 3 Credit Hours**

This is a senior project class allowing students to work in an area of interest.

**Prerequisite:** AGD 43025 or AGD 43099; and senior standing.

**Schedule Type:** Combined Lecture and Lab

**Contact Hours:** 1 lecture, 2 lab

**Grade Mode:** Standard Letter

**Attributes:** Experiential Learning Requirement, Writing Intensive Course