

### 3D FOR GAME AND ENTERTAINMENT I

GAME260 – 3 credits

In 3D for Games and Entertainment, students will learn the basics of game art design. Using software such as Maya, Blender, Substance Painter, and Photoshop. The course includes topics such as creating and manipulating 3D models, applying textures and materials, designing game environments, and basic principles of lighting and shading. The course also covers intermediate 3D game art modeling, Unreal Engine, advanced texturing and surfacing, set dressing and lighting, and a final project that involves developing a small area of a game or game experience using Unreal Engine.

Students will gain a solid foundation in game art design and CG content creation and will have the opportunity to apply their skills in creating a game art environment or game experience.

### GAME DESIGN II

GAME300 – 3 credits

In this course, students continue their journey into real-time development. Students are introduced to other applications for the Unreal Game engine outside of games. Students will be introduced to basic blueprints, character and animation implementation, and tools and plugins to help create experiences that will bring their projects to life.

Students will complete a complex and unique final project that will be built upon the skills learned in class each week for their portfolio.

*Prerequisite: GAME200 Game Design I*

*Course Fee of \$135*

### CULTURAL AND SOCIAL DESIGN FOR GAMES

GAME320 – 3 credits

This course will focus on the cultural and social aspects of game through the history of games. Students will explore the impact of games on social demographics and cultural events. Students will take this information and learn to create their own characters and worlds based on their research and analysis. *This class is a co-requisite of the SSCI LAS requirement: Cultural and Social Design for Games*  
*Prerequisite: GAME200 Game Design I, GAME215 Color and Lighting for Games; Co-requisite: SSCI213 Cultural and Social Design for Games*

### VFX FOR GAMES

GAME332 – 3 credits

This 15-week VFX course for games using Unreal Engine and Houdini is divided into five topics. In the first three weeks, students will learn the fundamentals of VFX creation in Unreal Engine, including an introduction to Niagara, Unreal's VFX system, and basic workflows in Houdini. In weeks four to six, they will explore advanced techniques for controlling particle behavior and creating complex VFX using both Unreal Engine and Houdini. Weeks seven to nine focus on lighting and post-processing effects, while weeks ten to twelve cover creating VFX for different types of games. The final three weeks are dedicated to a hands-on project, where students will apply the concepts and techniques covered in the course to create a custom VFX sequence using Unreal Engine, Houdini, and Niagara. The course will provide students with a comprehensive understanding of VFX workflows and techniques for games, as well as practical experience creating VFX sequences for different genres of games.

### GAME STUDIO PROJECT II

GAME350 – 3 credits

For Game Studio Project II, students will work in teams to develop a game experience using the principles and techniques learned in all prior courses. The project will be developed in Unreal Engine and will be a more complex and ambitious experience than the solo project in Game Studio Course I. Students will be required to work collaboratively and use best practices in project management, version control, and QA. The group project will be presented during the last week of the course, where each team will showcase their game to the class.

Additionally, throughout the course, students will be encouraged to build a portfolio of their work and incorporate it into their résumé. By the end of the course, students will have a solid understanding of advanced game design principles, programming and game mechanics, game art and sound design, project management and collaboration, and portfolio creation for game development.

*Prerequisite: GAME 250 Game Studio Project I*