University of the Incarnate Word

School of Media & Design

**ANGD 3371**

***Game Programming III***

Syllabus

**Catalog Description:** This studio course builds on the topics covered in Game Programming I and II. Students will learn advanced game programming topics, such as procedural content generation, game design concepts, and interaction with online systems. It is the third part of a series of courses designed to train practical skills that will help prepare students for work in the video game industry.

**Context**:

Prerequisites: ANGD 2372.

This is a Junior level course required of ANGD BFA majors in the *Programming* Concentration.

This course may not be repeated for credit.

This course will be offered in a face-to-face format.

Grade Mode: Normal

**Course Overview:** Continuing from the previous courses, students’ ability to create full, coherent game experiences will be further expanded. New topics will be explored, such as procedural generation of assets and gameplay spaces, pathfinding and AI, as well as some general game design concepts, like gameplay flow, the ‘feel’ of a game’s controls, and designing consistent and useful UI. This course will also introduce students to simple networking and online data persistence, allowing for the implementation of asynchronous social features into their games. Some of the projects created in this course will also delve into creating games for mobile platforms (both phones and tablets).

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| **Course Outcomes:** Upon completion of the course, students will be able to: | **Assessment:**  The objectives will be assessed by: |
| Use various procedural generation algorithms to create content and effects for their games. | Projects  (Repository-submitted projects and in-class playable game builds.) |
| Implement and integrate pathfinding algorithms into their games, both hand-written implementations as well as engine-provided functionality. | Projects  (Repository-submitted projects and in-class playable game builds.) |
| Design user interfaces for games that complement the gameplay and are intuitive to use, and ensure they scale well to different screen sizes. | Projects  (Repository-submitted projects and in-class playable game builds.) |
| Create a game that interacts with an online service to host leaderboards or create other social features, and allow for simple asynchronous network gameplay. | Projects  (Repository-submitted projects and in-class playable game builds.) |
| Design and build games for mobile devices, as well as port previously-created games, and understand how to design them to function well on both phones and tablets. | Projects  (Repository-submitted projects and in-class playable game builds.) |

This course complies with all UIW academic policies and federal guidelines, including but not limited to: academic integrity, disability accommodations, pregnancy accommodations, Title IX non-discrimination, and class absences for religious observances.  Current policy statements will be provided to all students through the learning management system and in information provided on the first day of class.