Course Description

This is a three-credit course with no prerequisites.

IMDM101 is an introduction to the basic practices, concepts and issues relevant to the field of Immersive Media Design. This course is a hybrid studio / lecture course in which students will work collaboratively in teams to complete both research and practical projects related to the field. Throughout the semester, equal time will be devoted to the following:

Foundational Creative Practice - Basic computational media practices will be introduced through the completion of several studio-based projects utilizing basic programming skills and circuit-building techniques. Students will create interactive or otherwise creatively engaging physical objects.

Surveying the Field of Immersive Media Design - By researching leading designers, computer scientists, artists and others in the discipline, students will become conversant and knowledgeable as to what leaders in the field are creating and the future direction of immersive media design.

Project Ideation and Production - Working in teams, students will create works of augmented and virtual reality based on project briefs set forth ahead of time by the instructor. Teams will pre-visualize, prototype and execute end-products. Teams will anticipate logistical and technical needs which might arise during the production of such a work.

Course Outcomes

Through participation in this course, students will

1. Identify and implement hybrid approaches to problem solving - approach problems as an artist, as an engineer, as a developer, and as a user.
2. Contextualize work within the broader field of immersive media design and develop a critical and aesthetic voice through the study and creation of virtual objects, environments and experiences.
3. Demonstrate an ability to convincingly convey project concepts and ideas to potential sources of interest (clients, exhibition institutions, academic and scientific institutions, etc.).

Unit1

Defining "immersive" experiences. Review of existing, relevant technologies. How to make a computer say "Hello world," do simple math, repeat operations, and ask questions.

Unit 2

Coding concepts that apply to media. "User experience" defined.

Unit 3

Historical review. Evolution of the field. Extrapolations about the future. And more coding.

Unit 4

Slightly more advanced coding with particular relevance to media work. Arrays, methods, subclasses. Exploring limitations arising from discrete digital calculations.

Unit 5

Color theory. How to consider color as a set of parameters. Human color perception. Numerical color representation and analysis.

Unit 6

Programming in three dimensions. Introduction to the Unity game engine. Animation. Sequential operations.

Unit 7

Design concepts. Storyboards. Grant applications. Project management.

Unit 8

Sensors. Computational treatment of light, sound, temperature, acceleration. Interactive programming with sensors.

Unit 9

Introduction to virtual reality. Safety considerations. "Cybersickness." How the illusion of depth is created. Integrating motion detection into the experience.

Unit 10

Designing and planning a large scale immersive media experience.