## Program Mission

The mission of the Masters in Game Design and Development program is to produce students who have a deep technological and design focus in the areas of graphics programming, game systems design, artificial intelligence for gameplay, ideation and design, industry processes, as well as a commitment to research and academic inquiry. This experience is designed to extend computing principles from a technology-focused undergraduate education into the entertainment technology landscape, as well as other related areas. The program focuses on interactive systems development, but meets the industry need for developers who are involved in the design process from the beginning. The degree is specifically for students who aspire to hold careers within the professional games industry or a related field such as simulation, edutainment or visualization, and focuses on producing graduates that understand the technical roots of their medium, the possibilities that creative application of software development affords, and the way in which their industry operates.

Upon completion of their coursework, students are organized into development teams that construct a working game engine and software title as a capstone experience, with both individual requirements in applied research and group requirements in collaborative processes and software development. The capstone project, the focus on team-based collaborative development, and the applied nature of the curriculum all work together to provide a comprehensive exploration of the discipline.

## Program Goals

We expect that graduates of the Master of Science in Game Design and Development program, three to five years after the date of graduation, will:

1. combine concepts in essential knowledge domains such as game development processes, game design, as well as gameplay and prototyping, towards the realization of game design and development applications or related media-centric works.
2. work productively as game application developers, game designers, simulation and visualization application developers, and/or process tool developers within the games industry or a related media-centric discipline.
3. effectively communicate within the profession as well as recognize and interpret technical, social, cultural, ethical, and global indicators within the field.
4. work effectively in multidisciplinary concept design and/or software development teams.
5. engage in applied and integrative research related to game design, game technology, or media-centric application development.

## Student Learning Outcomes

Upon completing the Master of Science in Game Design and Development, students will be able to:

1. apply knowledge of game design, game development processes, gameplay theory and prototyping to the field (embodies Institute Program Outcomes 1 and 4 as well as contributes to Program Goals A and B).
2. conduct applied and integrative research in the field of game design and development (embodies Institute Program Outcomes 1 and 5 as well as contributes to Program Goal E).
3. identify, analyze, and resolve game design problems using industry established game design and gameplay concepts (embodies Institute Program Outcomes 1, 3, and 5 as well as contributes to Program Goals A, C, and D).
4. integrate emerging design and technology concepts in the practice of game creation (embodies Institute Outcomes 1, 4, and 5 as well as contributes to Program Goals A, B, and D).
5. apply current technology in a media-centric context (embodies Institute Program Outcomes 1 and 5 as well as contributes to Program Goals B and D).
6. identify critical legal and ethical challenges in the design and production of games (embodies Institute Program Outcome 3 and contributes to Program Goal C).
7. effectively communicate technical and design concepts through writing, speech, and formal presentation (embodies Institute Program Outcome 1 as well as contributes to Program Goals C and D).
8. demonstrate how design and development applies to both a local and global industrial practice and research (embodies Institute Program Outcome 2 and contributes to Program Goal C).
9. apply core industry processes in the construction of game systems and entertainment technology applications (embodies Institute Program Outcomes 1 and 4 as well as contributes to Program Goals A and B).
10. effectively participate and contribute to multidisciplinary design and development teams (embodies Institute Program Outcomes 2 and 5 as well as contributes to Program Goal D).