COURSE NUMBER/TITLE: GDD-101 Introduction to Video & Computer Game Design & Development

CREDITS: 3

COURSE DESCRIPTION: This course introduces principles of video & computer game design and development. Students design and develop games, analyze popular games, and learn about various aspects of the game industry. Students learn about game design principles, story development, visual art production and programming.

TEXTBOOK: 
- Fundamentals of Game Design, 2nd Ed., by Adams (adopted Fall 2011)
- The Game Maker’s Apprentice, 1st Ed., by Habgood (adopted Fall 2011)
- Game Development Essentials, 2nd Ed., by Novak (adopted F08)
- Learning to Program with ALICE, 2nd Ed., by Dann (adopted F09)

COURSE OBJECTIVES: Upon successful completion of the course, the student will be able to:
1. Demonstrate basic understanding of game design principles.
2. Demonstrate basic game programming ability.
3. Demonstrate basic knowledge of visual art production processes.
4. Skillfully apply fundamental game design, visual art, narrative development and programming concepts in the development of an original game.
5. Develop clear and concise documentation for lab assignments and original game.
6. Analyze popular games from commonly used genres, examining intent, form and functionality.
7. Develop an independent analysis of a specific game.
8. Demonstrate user-friendly design in lab assignments and original game.
9. Develop an effective understanding of the various segments of the game development industry and the different employment opportunities within that industry.

COURSE OUTLINE:
1. History of video and computer game development (Objective 9)
   a. 2D games
   b. 3D games
   c. Serious games
2. Game development component exploration (Objectives 1, 3, 4, 6, 7, 8)
   a. Narrative Construction
   b. Game Design
   c. Aesthetic Design
   d. Programming/Engineering
   e. Physics of gaming
   f. Artificial Intelligence
   g. Game Engine
3. Specific Game Case Studies (Objectives 1, 6, 7)
   a. Game play examination
   b. Component exploration
   c. Written analysis
4. Game development project (Objectives 1, 2, 3, 4, 5, 8)
   a. Projects will be done using a modern beginning game environment. At the present time this
      would include products such as Alice, Scratch, Phrogram (KPL).
   b. Team structure
   c. Assisted approach to development of assets

5. The Gaming Industry (Objective 9)
   a. Visual art roles
   b. Programming/engineering roles
   c. Entertainment vs. serious game companies