NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
ITP 160 - INTRODUCTION TO GAME DESIGN & DEVELOPMENT (4 CR.)

Course Description

Introduces object-oriented game design and development. Provides overview of the electronic game design and development process and underlines the historical contest, content creation strategies, game careers, and future trends in the industry. Utilizes a game language environment to introduce game design, object-oriented paradigms, software design, software development and product testing. Teaches skills of writing a game design document and creating a game with several levels and objects. Integrate 2D animations, 3D models, sound effects, and background music as well as graphic backgrounds. Lecture 4 hours per week.

General Purpose

The purpose of this course is to provide a comprehensive introduction to game design and development. The course will define essential game design and development terms and concepts. The emphasis of the course is on the design, development, and building of a playable game using a popular game engine. The student will learn the basics of the design and development process of video games, content creation strategies, narrative design, game design, developing a game using a game engine and programming language, and explore testing, marketing and analyze game career paths and future trends in the industry.

Course Prerequisites/Corequisites

None.

Course Objectives

Upon completion of this course, the student will be able to:

a) Define essential game development vocabulary
b) Effectively apply the game design and development process
c) Understand the game industry fundamentals
d) Plan the production of a game
e) Explore game design and development teams
f) Create and build a game using logic and programming
g) Test and examine a game for accessibility
h) Examine game marketing strategies and explore industry trends

Major Topics to be Included

- Interpreting and Exploring the history, culture and purpose of games
- Identifying and applying Ethics and Regulations to Game Design
- Exploring Game Industry Fundamentals
- Working with Narrative/Concept design
- Exploring Game Design and Development Teams
- Planning the Production of a Game
- Creating and Building a Game using Logic and Programming
- Performing Quality Assurance
- Capturing the Market/Examining Marketing Strategies
- Ensuring Career Readiness/Preparing for Career Opportunities

Student Learning Outcomes

Interpreting and Exploring the history, culture and purpose of games
- Define a game.
- Define the culture of a game.
- Analyze the elements of a successful game.
- Explain the effects of games on the user.
- Explain the effects of games on society.
- Identify the purposes of games.
- Differentiate between entertainment, serious games, and simulation.
- Define terms associated with the game industry.
- Examine the cultural connections and/or sensitivities of games.
- Summarize the history of game development.

Identifying and applying Ethics and Regulations to Game Design
- Investigate accessibility guidelines for game platforms.
- Adhere to intellectual property laws./ Differentiate between public domain and intellectual property.
- Interpret the Entertainment Software Rating Board (ESRB) rating system.
- Explain end user license agreements (EULA).
- Summarize the security concerns of the user and developer.
- Describe ethical issues related to the game industry.

Exploring Game Industry Fundamentals
- Differentiate among game genres.
- Compare game platforms.
- Describe trends in the gaming industry.
- Describe gaming hardware.
- Identify organizational components associated with game design.
- Explain the foundations of a successful game.
- Describe different platforms for game development.

Working with Narrative/Concept design
- Define *narrative design*.
- Describe and identify the components of storytelling.
- Develop a storyline.
- Explain and apply a perspective.
- Plan and develop a setting.
- Present a narrative/concept.

Exploring Game Design and Development Teams
- Describe the components of game design.
- Perform the role of a team member.
- Collaborate with team members in performing different game design roles.
- Evaluate role as a team member.

Planning the Production of a Game
- Implement the elements of a successful game.
- Describe the audience.
- Plan a timeline for production.
- Create a flow chart for game progression.
- Develop a production plan for the game design.
- Apply the elements of design.
- Apply the principles of design.
- Evaluate the role of sound and music.
- Identify game development techniques.
- Complete a game design document
- Design a game prototype/Create a physical model/mock-up of a game.

Creating and Building a Game using Logic and Programming
- Using a popular game engine and computer programming, develop the game based on the game design document.
- Use primitive data types and flow control statements that are the building blocks of all programming.
- Use foundation knowledge of object oriented coding techniques to create classes that are applied appropriately within the game developed.
- Apply Primitive Data Types, GUI, Selection Statements, Loop Statements, Methods, Arrays, Classes and objects, Strings, and Files as needed in game development.
- Integrate assets into a game.
- Implement interactivity into a game.
- Manipulate sounds/incorporate sounds appropriate to a particular game scenario.
- Create user documentation.

Performing Quality Assurance
- Examine a game for accessibility.
- Perform alpha testing.
- Perform beta testing.
- Examine beta testing feedback/results.

Capturing the Market/Examining Marketing Strategies
- List ways that games are published.
- Explain digital rights management (DRM).
- List marketing options.
- Evaluate the influence of marketing on the success of a game.
- Examine marketing strategies and their importance.

Ensuring Career Readiness/Preparing for Career Opportunities
- Compile a multimedia portfolio.
- Explore careers associated with game design.
- Outline a chosen career pathway in game design and development.

Game Design and Development Project

Within a team, the student will:

a) Come up with a game concept
b) Develop the Game Narrative
c) Develop the Game Design Document
d) Plan the production of a game
e) Create a playable version of the game
f) Perform Quality Assurance
g) Examine marketing strategies
h) Compile a multimedia portfolio

Required Time Allocation per Topic

In order to standardize the core topics of ITP 160 so that a course taught at one campus is equivalent to the same course taught at another campus, the following student contact hours per topic are required. Each syllabus should be created to adhere as closely as possible to these allocations. Of course, the topics cannot be followed sequentially. Many topics are taught best as an integrated whole, often revisiting the topic several times, each time at a higher level. There are normally 60 student-contact-hours per semester for a four credit course. (This includes 15 weeks of instruction and does not include the final exam week so 15* 4 = 60 hours. Sections of the course that are given in alternative formats from the standard 16 week section still meet for the same number of contact hours.) The final exam time is not included in the time table. The category, Other Optional Content, leaves ample time for an instructor to tailor the course to special needs or resources.

Topic	Hours	Percentage
Interpreting and Exploring the history, culture and purpose of games	4	6.66%
Identifying and applying Ethics and Regulations to Game Design	4	6.66%
Exploring Game Industry Fundamentals	4	6.66%
Working with Narrative/Concept design	4	6.66%
Exploring Game Design and Development Teams	4	6.66%
Planning the Production of a Game	8	13.33%
Creating and Building a Game using Logic and Programming	20	33.33%
Performing Quality Assurance	6	10%
Capturing the Market/Examining Marketing Strategies	2	3.33%
Ensuring Career Readiness/Preparing for Career Opportunities	2	3.33%
Other Optional Topics	2	3.33%
Total	60	100%