

GD375

Level Design

[Onsite]

Course Description:

This course introduces the art of game and level design. A combination of lecture, discussion and hands-on applications are used to teach issues addressed by game and level designers. The course integrates theories and skills from a number of other disciplines to demonstrate and simulate the decisions, skills, tools, problems and working conditions of a level designer.

Prerequisite(s) and/or Corequisite(s):

Prerequisite: GD350 Game Design Strategies

Credit hours: 4

Contact hours: 50 (30 Theory Hours, 20 Lab Hours)

Syllabus: Level Design

Instructor: _____
Office hours: _____
Class hours: _____

Major Instructional Areas

1. Game design fundamentals
2. Gameplay
3. AI, triggers, movers
4. Level development and testing

Course Objectives

1. Review the steps of game development process, including the responsibilities of each role in the process.
2. Create a set of appropriate design documents for a level.
3. Create a level narrative that includes information about the level environment, level puzzles, and level scripted events.
4. Translate a level narrative into the appropriate level design documents.
5. Define the necessary skills the player will need at the beginning of a level and the method of picking up or developing new skills during the level.
6. Demonstrate the use of game balance theory to create appropriate gameplay level design documents.
7. Given a level narrative, select the appropriate level type.
8. Describe the use AI, triggers, and movers to enhance the gameplay.
9. Create a level template with the Unreal2 Level Editor.

10. Explain how to conduct a play test of a level in development.
11. Explain how to perform the necessary steps to optimize, test, and release a game as bug-free as possible.

SCANS Objectives

SCANS is an acronym for Secretary's Commission on Achieving Necessary Skills. The committee, created by the National Secretary of Labor in the early 1990s, created a list of skills and competencies that the committee feels are necessary for employees to function in a high-tech job market.

1. Competently perform the tasks of acquiring data and evaluating information to determine specific information needs.
2. Organize, process, and maintain written or computerized records systematically.
3. Use computers to acquire, organize, analyze, and communicate information.
4. Competently use computers to process information, including typing, modifying, retrieving, storing, and verifying data.
5. Work collaboratively with others and contribute to the group with ideas, suggestions, and effort.
6. Learn about how technological systems work and operate effectively.
7. Demonstrate competence in applying technology.

Course Outline

Note: All graded activities, except the Project, are listed below in the pattern of <Unit Number>.<Assignment Number>. For example, Labs: 8.1 refers to the 1st lab activity in Unit 8.

Unit	Activities
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Unit	Activities
1– Game Design Fundamentals	<ul style="list-style-type: none"> • Content Covered: <p><i>Level Design for Games: Creating Compelling Game Experiences:</i></p> <ul style="list-style-type: none"> ○ Introduction ○ Chapter 1, “How Do You Make a Game?” ○ Chapter 2, “Defining the Game” <p><i>Game Level Design:</i></p> <ul style="list-style-type: none"> ○ Chapter 4, “Basic Level Design Theory,” pp. 57-77, “What Makes the Level Fun” through “Hooks—Setting Your Level Apart” <ul style="list-style-type: none"> • Labs: 1.1 • Writing Assignments: 1.1 • Writing Assignments: 1.2 • Project: Part 1 (High Concept)
2– High Concept to Level Narrative	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences:</i> <ul style="list-style-type: none"> ○ Chapter 4, “Brainstorming Your Level Ideas” ○ Chapter 6, “The Template,” pp. 157-186 <ul style="list-style-type: none"> • Labs: 2.1 • Project: Part 1 (Level Description)
3– Level Narrative to Level Design Documents	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences:</i> <ul style="list-style-type: none"> ○ Chapter 5, “Designing With a Diagram” ○ Chapter 6, “The Template,” pp. 187-204 <ul style="list-style-type: none"> • Labs: 3.1 • Project: Part 1 (Level Narrative)
4– Project Management	<ul style="list-style-type: none"> • Read from <i>The Indie Game Development Survival Guide:</i>

Unit	Activities
of Level Design	<ul style="list-style-type: none"> ○ Chapter 5, “Know Your Limitations” ○ Chapter 8, “Task Identification and Scheduling” ○ Chapter 9, “Budgeting and Risk Management” • Read from <i>Level Design for Games: Creating Compelling Game Experiences</i>: <ul style="list-style-type: none"> ○ Chapter 6, “The Template,” pp. 205-217 • Labs: 4.1 • Project: Part 1 (Project Plan)
5– Level Visual Design	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences</i>: <ul style="list-style-type: none"> ○ Chapter 8, “Taking It to 11,” pp. 243-258 • Read from <i>Game Level Design</i>: <ul style="list-style-type: none"> ○ Chapter 9, “<u>Building the Level Part 1: Basic Building Techniques</u>” ○ Chapter 10, “<u>Building the Level Part 2: Visual Design</u>” ○ Chapter 11, “<u>Building the Level Part 3: Theme, Investment, and Atmosphere</u>” • Read from <i>Beginning Game Level Design</i>: <ul style="list-style-type: none"> ○ Chapter 3, “Building Terrain” • Labs: 5.1 • Project: Part 2 (Project Plan-Revised)
6– Developing Skills and Balancing a Level	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences</i>: <ul style="list-style-type: none"> ○ Chapter 3, “Enemies and Obstacles: Choosing Your Challenges” • Read from <i>Game Design Workshop: Designing, Prototyping, and Playtesting Games</i>:

Unit	Activities
	<ul style="list-style-type: none"> ○ Chapter 9, “Functionality, Completeness, and Balance” • Labs: 6.1 [Project: Part 2 (Project Template)] • Project: Part 2 (Design Document Update) • Project: Part 2 (Level 1 Build)
7– Improving the Level through Testing	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences</i>: <ul style="list-style-type: none"> ○ Chapter 7, “Improving Your Level” ○ Chapter 9, “Ship It” ○ “Epilogue” • Read from <i>Beginning Game Level Design</i>: <ul style="list-style-type: none"> ○ Chapter 9, “Polishing” • Labs: 7.1 • Labs: 7.2 [Project: Part 2 (Level 1 Build)] • Project: Project Part 2 (Checkpoint 1)
8– Case Study	<ul style="list-style-type: none"> • Read from <i>Swords and Circuitry: A Designer’s Guide to Computer Role Playing Games</i>: <ul style="list-style-type: none"> ○ Chapter 11, “Trent Oster: Neverwinter Nights” • Labs: 8.1 [Project: Part 2 (Checkpoint 1)] • Project: Part 2 (Testing Plan) • Project: Part 2 (Level 2 Build)
9– Level Redesign	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences</i>: <ul style="list-style-type: none"> ○ Chapter 2, “Defining the Game” ○ Chapter 3, “Enemies and Obstacles: Choosing Your Challenges” ○ Chapter 4, “Brainstorming Your Level Ideas”

Unit	Activities
	<ul style="list-style-type: none"> ○ Chapter 5, “Designing with a Diagram” ○ Chapter 8, “Taking it to 11” • Labs: 9.1 [Project: Part 2 (Level 2 Build)] • Project: Part 2 (Checkpoint 2)
10– Developing the Final Version	<ul style="list-style-type: none"> • Read from <i>Level Design for Games: Creating Compelling Game Experiences</i>: <ul style="list-style-type: none"> ○ Chapter 6, “The Template” ○ Chapter 8, “Taking it to 11,” pp. 258-296 • Labs: 10.1 [Project: Part 2 (Checkpoint 2)] • Project: Part 3 (Final Stage)
11– Course Review and Project Submission	<ul style="list-style-type: none"> • Course Review • Project: Part 3 (Final Stage)

Instructional Methods

Your instructor will facilitate discussions of the various topics of level design covered in this course. This will be done through lecture, critique of successful games, and demonstrations.

Through various tutorials and instructor guidance, you will develop basic skills in using the Unreal2 Level Editor tool. You will submit five assigned tutorials for a lab grade.

By the end of this course, you will have worked with an assigned group to concept, design, and develop a level that will give the average target player at least 15 minutes of game play.

While you and your classmates may assist each other in the design and development of your project, each group is to deliver a unique project. The project will consist of three major parts. The first part will consist of designing the high concept, level description, and level narrative. For the second part of the project, you will perform two level builds, two checkpoints, a design

document update, and a testing plan. The third part of the project is the final stage where the builds will be reviewed and play-tested.

You will need to perform much of the work necessary to complete assignments in this course outside of the class periods. These assignments include researching and creating various design documents, reviewing existing game designs, and creating your project. You should save all of your work from this course to add to your portfolio.

Instructional Materials and References

Student Textbook Package

Co, Phil. *Level Design for Games: Creating Compelling Game Experiences*. Berkeley, CA: New Riders, 2006.

Other Required Resources

In addition to the student textbook package, the following are also required in this course:

- ITT Tech Virtual Library: Books> Books24x7
 - Fullerton, Tracy, Christopher Swain, and Steven Hoffman. *Game Design Workshop: Designing, Prototyping, and Playtesting Games*. San Francisco: CMP Books, 2004.
- ITT Tech Virtual Library> Books> Ebrary
 - Byrne, Ed. *Game Level Design*. Hingham, MA: Charles River Media, Inc., 2004.
 - Feil, John, and Marc Scattergood. *Beginning Game Level Design*. Boston: Course Technology PTR, 2005.
 - Halford, Neal, and Jana Halford. *Swords and Circuitry: A Designer's Guide to Computer Role Playing Games*. Florence, KY: Course Technology, Inc., 2002.
 - Michael, David. *The Indie Game Development Survival Guide*. Hingham, MA: Charles River Media, Inc., 2003.

References

ITT Tech Virtual Library

Log on to the ITT Tech Virtual Library at <http://library.itt-tech.edu/> to access online books, journals, and other reference resources selected to support ITT Tech curricula.

School Of Study Links

You may click School Of Study and select School of Drafting and Design or use the “Search” function on the home page to find the following links.

- Recommended Links
 - [The Art of Computer Game Design](#)
- Professional Organizations
 - Entertainment Software Association

Books

You may click “Books” or use the “Search” function on the home page to find the following books.

- Ebrary
 - Pardew, Les, Scott Pugh, and Eric Nunamaker. *Game Design for Teens*. Boston: Course Technology PTR, 2004.

Other References

The following resources may be found **outside** of the ITT Tech Virtual Library.

Web sites

- Epic Games' Unreal Developer Network Unreal Engine 2
<http://udn.epicgames.com/Two/WebHome.html>

This Web site provides information on working with the engine in a technical fashion: from building your own game or mod to networking or rendering specifications, as well as documentation on the practical, audio, visual, and physical aspects of producing Unreal Engine 2-based content. Everything from level design to textures and music to modeling is covered here in both a practical, hands-on, how-to format, as well as in a more formal, comprehensive, reference format.

- Unreal Technology

<http://www.unrealtechnology.com/>

This site offers resources to both engine licensees and the mod community.

All links to Web references outside of the ITT Tech Virtual Library are always subject to change without prior notice.

Course Evaluation and Grading

Evaluation Criteria Table

The final grades will be based on the following categories:

CATEGORY	WEIGHT
Project: Part 1	30%
Project: Part 2	30%
Project: Part 3	15%
Labs	20%
Writing Assignments	5%
Total	100%

Note: Students are responsible for abiding by the Plagiarism Policy.

Grade Conversion Table

The final grades will be calculated from the percentages earned in the course, as follows:

A	90-100%	4.0
B+	85-89%	3.5
B	80-84%	3.0
C+	75-79%	2.5
C	70-74%	2.0
D+	65-69%	1.5
D	60-64%	1.0
F	<60%	0.0

(End of Syllabus)