



Video Game Production

ITP 280 (4 Units)

Fall 2014

Objective The purpose of this course is to gain a hands-on understanding developing video games. Students will be introduced to various facets of video game production: design, art, programming, and management. The course will include various hardware and software tools that aid in the video game production process.

Concepts The video game production process incorporates various methodologies for programming, designing, and managing games. Students will be introduced to a variety of software tools that involve creating and designing 2D and/or 3D-Worlds, level design, character and background modeling, textures, and animation. Programming concepts in this course will address the role of AI, game logic, network and multiplayer concerns, graphic effects, sound effects, and scripting languages when creating video games. Students will learn the project lifecycle of video game development including concept development, project proposal, functional specs, gameplay design, prototyping, production and testing.

This is a project-based course. Students will be responsible for participating in class game jams and the final project will be a working game / prototype. The tools and concepts needed to complete the projects will be addressed during lectures and detailed during labs.

Instructor Dr. Anthony Borquez, anthonyb@usc.edu
Office hours: Wednesday 4-6pm, (or by appointment)

Lab Assistant Conrad Kurth, conradku@usc.edu
Grant Collins, grantcol@usc.edu

Prerequisite No formal pre-requisite. Computer literacy or ITP 101 recommended.

Lecture Wednesdays 6:00 PM to 8:50 PM
Sign up for one of the three Friday labs:
11am to 12:50 PM or 1 PM to 2:50 PM or 3pm to 4:50pm

Reading

- ITP 280 Course Reader
- Other lecture notes to be distributed by Instructor

Grading The following point structure will be used in determining the grade for the course. Final grade will be based upon the total points received.

Lab Assignments/Lab Attendance - 35%	300
<ul style="list-style-type: none"> • Lab 1 – Gamemaker (100) • Lab 2 – Game Design Treatment (60) • Lab 3 – GamePlay Enhancement (100) • Attendance (40) 	
Midterm - 20%	150
Online Discussion Boards - 10%	100
<ul style="list-style-type: none"> • Discussion Board 1 (5 points) • Discussion Board 2 (20 points) • Discussion Board 3 (20 points) • Discussion Board 4 (15 points) • Discussion Board 5 (10 points) • Discussion Board 6 (10 points) • Discussion Board 7 (10 points) • Discussion Board 8 (10 points) 	
Final Project/Game Docs – 35%	300
TOTAL POSSIBLE POINTS	850

Grading scale:

A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	64-66
F	< 60

Lab Assignments: Lab assignments will be posted on Blackboard and will contain instructions on due dates, requirements, etc. Your scheduled lab time is when lab assignments should be worked on/completed. Students can also do their lab assignments from home or an alternative facility.

Midterm Examination: The midterm examination will be an in-class exam consisting of multiple choice, short answer, and essay questions. Students are only required to bring a pen or pencil to class.

Online Discussion Boards: Students will be required to participate with the online discussion boards located at the class website (blackboard.usc.edu). The online discussion board consists of a variety of biweekly topics/questions that each student will respond to. Students are required to post their own discussion board thread, as well as respond to **at least two student postings** to receive full credit.

Note: some discussion boards will not require 2 postings. Read the discussion boards carefully as they will list out the details.

Final Project: At the end of the semester, there will be a final project. The final project will be a semester-long project including a written high-concept pitch, design documents, and a playable demo of a game. Students will be given direction throughout the semester preparing for the final project.

Policies *Make-up policy for exams:* To make up for a missed exam, the student must provide a satisfactory reason (as determined by the instructor and university policy) along with proper documentation. Make-up exams are only allowed under extraordinary circumstances.

Projects: It is the student's responsibility to turn in projects on or before deadlines as set by the instructor.

Late Projects: There will be a 10% reduction of the project's grade for each day it is late.

Before logging off a computer, students must ensure that they have emailed or saved projects created during the class or lab session. Any work saved to the computer will be erased after restarting the computer. ITP is not responsible for any work lost.

ITP offers Open Lab use for all students enrolled in ITP classes. These open labs are held beginning the second week of classes through the last week of classes. Please contact your instructor for specific times and days for the current semester.

- You are required to attend Lab each week (except Week 1).
- Laptops are permitted in lecture for note taking purposes. Using your laptop to play games, Facebook, etc. is not allowed.

Academic Integrity

The use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or other class work is unacceptable to the University. It is often difficult to distinguish between a culpable act and inadvertent behavior resulting from the nervous tension accompanying examinations. When the professor determines that a violation has occurred, appropriate action, as determined by the instructor, will be taken.

Although working together is encouraged, all work claimed as yours must in fact be your own effort. Students who plagiarize the work of other students will receive zero points and possibly be referred to Student Judicial Affairs and Community Standards (SJACS).

All students should read, understand, and abide by the University Student Conduct Code listed in SCampus, and available at:
<http://www.usc.edu/student-affairs/SJACS/nonacademicreview.html>

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

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Exact details of each lecture subject to change based on events, guest speaker schedules, technical difficulties, etc.

Week 1 Lecture:

08/27/14 Introduction and Course Overview

- Syllabus
- <http://blackboard.usc.edu>
- Instructor/Lab Assistant Backgrounds
- Current Industry Trends
- Brief overview of final project
- Blogs, Online Forums, Magazines, etc.

Lab: No Labs this week

Reading: Course Reader Week 1

Week 2 Lecture:

09/03/14 History of Video Games

- Historical Timeline
- Pong, Atari – ET, Nintendo, Sega, Sony, Microsoft
- Milestone games and cycles in the industry

Game genres, game platforms, and development considerations.

- Action, RPG, RTS, FPS, MMO, MOBA, etc.
- Xbox 360/720, PS3/PS4, WiiU, PC, Mobile

The Development Team

- Roles & Responsibilities
- Emerging positions
- Communication

Lab 1: GameMaker (Recreating the Classics)

Reading: Course Reader Week 2

Discussion Board #1 – Favorite Game of All Time

Week 3 Lecture:

09/10/14 The Game Production Process

- AGILE Methodologies
- AGILE/SCRUM for Game Development
- Software and documents used to manage the production
- Games as a Service (Live Team Support)

CLASS EXERCISE: SCRUM

Lab 1: GameMaker Recreating the Classics - continued

Reading: Course Reader Week 3

Week 4 Lecture:

09/17/14 Game Design Overview

- What is fun?
- Understanding Your Audience
- Game Design Principles
 - Objectives vs. Goals
 - Choices and Outcome
 - Interface Design/HUDs
 - Progression
 - Balancing/Tuning (worksheet examples)
 - Polish
- Game Design documents

Guest Lecturer: TBD

Lab: Lab Assignment #1

Reading: Course Reader Week 4

Discussion Board #2 – SCRUM

Week 5 Lecture:

09/24/14 Overview of Assignment #2 / Group Assignments

CLASS EXERCISE: Game Design / Sissy Fight

Level Design – Game Design Tools and Demonstrations (iPad demo)

Game Design Considerations

- Next Gen Consoles (PS3/PS4, Xbox 360/720, WiiU)
- Handhelds (PSVita, 3DS)
- iOS / Android
- PC / Downloadable Platforms

Working with 1st Party Publishers

- Development Environments
- Microsoft – Xbox
- Sony – Playstation
- Nintendo - Wii

Lab: Lab Assignment #1 Due Fri 09/26/14 (midnight);

Reading: Course Reader Week 5

Week 6 **Lecture:**
10/01/14 Mobile Games

Lecture on giving Effective Presentations

Lab 1 Demonstrations

Mobile Game Production

- History of Mobile Gaming
- Feature Phones
- Languages: Java, Obj-C, HTML5
- iPhone/Android Development
- Development considerations
 - Touch, LBS, Accelerometers
 - Asynchronous

In Class Assignment – Game Jam: Game Design

Tablet Gaming

- Development considerations
- Emerging platforms
- Production Process

Reading: Course Reader Week 6

Lab: Assignment 2

Discussion Board #3 – Game Design

Week 7 **Lecture:**
10/08/14 Online Games

Field Trip: TBD

Overview of TBD Game Company
The Producer Role at TBD Game Company

Concept Art Phase
Creating 3D Models
Texturing Models
Incorporating Animation into Splash Screens

How to make money with Free Games

Freemium Online Games & MMOs

- Game Mechanics
- Business model
- Game styles: DOTA, MOBA

Reading: Course Reader Week 7

Lab: Assignment 2 due 10/15/14

Discussion Board #4 – UI/UX Mobile Game

Week 8 **Lecture:**
10/15/14 Marketing Games

User Acquisition Strategies

- Organic vs. Paid traffic
- Best practices for creating viral apps
- How to acquire traffic to your game/app
- Understanding KPIs (Key Performance Indicators)

Evaluating analytics packages

Legal Aspects of Gaming

- Value of IP
- Contracts, NDA's, Developer Agreements
- Infringement, Trademarks, Patents, Copyright

Midterm Review

Lab: Assignment #3 – GamePlay Enhancement

Reading: Course Reader Week 8

Discussion Board #5 – League of Legends

Week 9 **MIDTERM EXAMINATION**
10/22/14 **Lab:** Assignment #3

Lab 2 Presentations

Week 10 **Lecture:**
10/29/14 Working in 3D Environments

Midterm Results

Final Project Overview

Final Project Sample presentations

Unity 3D

- Introduction to Unity
- Understanding the development environment
- Sample Projects
- Basic Physics of Unity
- Introduction to Scripting

Lab: Assignment #3

Reading: Course Reader Week 10

Week 11 Lecture:
11/05/14 Working in 3D Environments

Lab 3 Presentations

Level Design

- Laying out levels in 3D
- Balance and Progression in 3D
- Importing 3D Assets
- Prototyping
- Iteration techniques

In Class Assignment – Game Jam: 3D Environments

Lab: Assignment #3 due 11-07-14

Reading: Course Reader Week 11

Discussion Board #6 – Game Company Culture (Valve)

Week 12 Lecture:
11/12/14 Online MMO Games

BLIZZARD Field Trip

Overview of MMO Games

- Game Design for MMO
- Approaches to Game Design
- Good Game Design

MMO Game Design Principles

- Prototyping and Iteration
- Level Design
- Game Balancing

Lab: Work on Final Project

Reading: Course Reader Week 12

Discussion Board #7 – World of Warcraft

Week 13 Lecture:
11/19/14 How to build your own game studio

Setting up a game company

- Legal Items
- Selecting a Corporate Entity
- Business Plan / Executive Summary
- Budgeting & Business Models
- Company Culture
- Seeking out Investors
- Valuation of a Business
- Running Operations of a Startup

Game Physics

- Academic research
- Use of physics in games
- Exemplary uses of physics

Game AI – Artificial Intelligence

- Academic research
- Use of AI in games
- Exemplary uses of game AI

Game Audio

- Where to find great sound bytes for your game
- Integration techniques
- Custom Sounds
- Establishing a pipeline

In Class Assignment – Game Jam: Physics

Lab: Final Project

Reading: Course Reader Week 13

Week 14 Lecture:
11/26/14

No Class – Thanksgiving Break

Lab: Final project

Reading: No reading.

Week 15 Lecture:
12/03/14 Final Pitch Presentations to class

Final Project Document Due
(Functional Spec, Game Design Doc, High Concept Pitch)

- Final project strategy preparation
- The future of games
- closing words

Lab: Final project

Reading: No reading.

Discussion Board #8 - Semester Reflection Piece

FINAL PROJECT DEMONSTRATION IS DURING EXAM PERIOD:
Wednesday Dec 10th, 2014, 7:00pm to 9:00pm KAP160