**Objective**
The purpose of this course is to gain a hands-on understanding of 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 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 creating a detailed functional specification for an assigned game by midterm and the final project will be a small working game or level. The tools and concepts needed to complete the projects will be addressed during lectures and detailed during labs.

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

**Lab Assistant**
Justin Lewis, lewij3@gmail.com  
Gabriel Deyerle, deyerle@usc.edu

**Prerequisite**
ITP 101 or equivalent

**Lecture**
Wednesdays 6:00 PM to 9:00 PM  
Sign up for one of the three Friday labs:  
10 AM to 11:50, Noon to 1:50 PM, or 2 PM to 3:50 PM.

**Reading**
- Getting Started with GameMaker, Jerry Lee Ford, Jr.  
- 2006 Casual Games Whitepaper (available from Blackboard)  
- 2005 Mobile Games Whitepaper (available from Blackboard)
**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.

<table>
<thead>
<tr>
<th>Lab Assignments/Lab Attendance:</th>
<th>150</th>
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<tbody>
<tr>
<td>• Lab 1 – Gamemaker 50 pts</td>
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<tr>
<td>• Lab 2 – Game Design Treatment 30 pts</td>
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<td>• Lab 3 – Gameplay Enhancement 30 pts</td>
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<td>• Lab 4 – Maya 30 pts</td>
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<tr>
<td>• Attendance – 10 pts</td>
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<table>
<thead>
<tr>
<th>In Class Assignments &amp; Quizzes 10 pts each</th>
<th>50</th>
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<tbody>
<tr>
<td>In-class Assignments:</td>
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<tr>
<td>• In-class assignments will consist of game demonstrations requiring written feedback from students. In-class assignments present students a variety of questions pertaining to different in-class game demonstrations. The instructor will provide handouts to the students that will require written responses. Students do not need to prepare in advance for the in-class assignments.</td>
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<tr>
<th>Midterm</th>
<th>100</th>
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<tbody>
<tr>
<td>Online Discussion Boards 5 pts each</td>
<td>40</td>
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<tr>
<th>Final Exam/Project/Game Docs</th>
<th>120</th>
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<tr>
<td>TOTAL POSSIBLE POINTS</td>
<td>450</td>
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**Grading scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<tbody>
<tr>
<td>A</td>
<td>100-93</td>
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<tr>
<td>A-</td>
<td>92-90</td>
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<tr>
<td>B+</td>
<td>89-87</td>
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<td>B</td>
<td>86-83</td>
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<tr>
<td>B-</td>
<td>82-80</td>
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<tr>
<td>C+</td>
<td>79-77</td>
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<td>C</td>
<td>76-73</td>
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<td>C-</td>
<td>72-70</td>
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<tr>
<td>D+</td>
<td>69-67</td>
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<tr>
<td>D</td>
<td>66-65</td>
</tr>
<tr>
<td>F</td>
<td>64 or below</td>
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</tbody>
</table>

**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 weekly 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.

**Final Exam/Project**: At the end of the semester, there will a final examination/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 2% 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 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.
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.
Video Game Production  
ITP 280 (4 Units)

Week 1  
1/13/10  
Lecture:  
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: n/a  
Discussion Board #1

Week 2  
1/20/10  
Lecture:  
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 management considerations.  
- Action, RPG, RTS, FPS, MMO, Serious Games etc.  
- Xbox 360, PS3, Wii, PC

Lab 1: GameMaker 6 (Recreating the Classics)  
Reading: Rabin; Section 1.1, 1.2, 1.3; Chaplin 1 & 2  
Discussion Board #2

Week 3  
1/27/10  
Lecture:  
The Development Team  
- Who’s the TD? Ask the EP....  
- Team versus Group organization  
- The multi-game worker  
- Communication

In Class Assignment #1: Video Games and Peripherals

The Game Production Process  
- Communication and meeting schedules  
- Managing the assets and resources  
- Software and documents used to manage the production

Lab 1: GameMaker 6 Recreating the Classics - continued  
Reading: Rabin; Section 3.1, 7.1, 7.2, 7.4  
Discussion Board #3
Week 4
2/03/10  Lecture:
Design Overview Part 2: Elements of Game Design
- The value of Market Data (NPD)
- Game Design Principles
  - Objectives vs. Goals
  - Choices and Outcome
  - Interface Design/HUDs
  - Balancing
- What is fun?
- Game Design documents

Game Feature & Demo: Castle Crashers

Lab: Presentations from Assignment #1; Lab #2
Reading: Rabin: Section 2.2; Chaplin 5
Discussion Board #4

Week 5
2/10/10  Lecture:
Little Big Planet – Game Design Tools

Overview of Assignment #2

Game Design Considerations
- Next Gen Consoles (PS3, Xbox 360, Wii)
- Handhelds (PSP Go, DSi)
- iPhone
- PC
- Downloadable Platforms

Real-Time Strategy Games
- Technical Infrastructure
- Development Consideration
- Game vs. Game Engine
- Game Architecture
- Programming Process
- XNA Game Development
- Mobile Game Development Overview

Guest Lecturer: TBD

Lab: Assignment 2
Reading: Chaplin 4
Week 6
2/17/10
Lecture:
Marketing Video Games
• The Marketing Team
• Marketing Channels
• The role of retail distribution
• Guest Speaker - TBD

Legal Aspects of Gaming
• Value of IP
• Contracts, NDA's, Developer Agreements
• Infringement, Trademarks, Patents, Copyright

Reading: Rabin: Section 7.4, 7.5, 7.6; Chaplin 7
Discussion Board #5

Week 7
2/24/10
Lecture:
In Class Assignment #2: Video Game Design

Online Game Production

Casual Games
• Overview of Market/Industry
• Pogo, Popcap, Miniclip, Yahoo, Aol, etc.
• XBLA

Game Design for Social Communities
  o Facebook, MySpace, Bebo
  o Facebook Connect and APIs

MMOs (Massively Multiplayer Online Games)
• Overview of Market/Industry
• World of Warcraft, Everquest

Monetization Strategies
• Virtual Currency
• Ad Interstitials

Guest Lecture: TBD

Lab: Assignment #2 – due
Lab: Assignment #3 – GamePlay Enhancement
Reading: Rabin: Section 6.1-6.8; Chaplin 6; Whitepaper: Casual Games
Discussion Board #6

Week 8
3/03/10
MIDTERM EXAMINATION
Lab: Assignment 3 Due; Overview of Maya
**Week 9**

3/10/10

**Lecture:**
Midterm Analysis/Results

Lab 3 Presentations

Game Demos

Overview of Maya

2D Graphics
  - Overview of 2D Graphics
  - Vector Graphics
  - Cell Shading
  - Creating Sprites

3D Modeling and Animation
  - Animation in games vs. other media
  - Designing with the programmer and artist in mind
  - Overview of Maya

**Lab:** Assignment #3

**Reading:** Rabin: Section 3.3 – 3.4; Chaplin 8

**Week 10**

3/24/10

**Lecture:**
Final Project Overview
Final Project Past Examples

Maya Review

Integrating Art Assets into modding environment

Mobile Game Development
  - Mobile Game Design and Form Factor
  - Development Consideration

Quality Assurance in Games
  - Overview of QA Process
  - Implementing QA in games

**Lab:** Assignment #4 - continued

**Reading:** Whitepaper – Mobile Games

**Discussion Board #7**
Week 11  
3/31/10  
Lecture:  
Games Demo & Presentation

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

Handheld Games and Platforms
- Market Overview
- Technology Overview
- PSP vs. DS

Lab: #4 due; Final Project  
Reading: none  
Discussion Board #8

Week 12  
4/07/10  
Lecture:  
Field Trip - TBD

Lab: Final Project  
Reading: Rabin; Section 5.3, 5.4, 4.3

Week 13  
04/14/10  
Lecture:  
Audio Design and Creation

- Completing (or making) the experience
- Music and Sound Effects creation
- Dialog directing and recording
- Tools
- Guest Lecturer: TBD

*In class Assignment #3 – Audio Design in Games*

Lab: Final Project  
Reading: Rabin; Section 6.9
**Week 14**  
4/21/10  
**Lecture:**  
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.

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**Week 15**  
4/28/10  
**FINAL EXAM: Wednesday May 5th, 2009 from 7:00 to 9:00 in KAP160**