

**San José State University**  
**School/Department of Computer Science**  
**CS 185C Section 1, Unity Game Engine, Section, Fall 2016**

**Course and Contact Information**

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|-------------------------|---|
| <b>Instructor:</b>      | Jared Finder                              |
| <b>Office Location:</b> | Duncan Hall 282                           |
| <b>Telephone:</b>       | 530-346-3371                              |
| <b>Email:</b>           | michael.finder@sjsu.edu                   |
| <b>Office Hours:</b>    | 6:30pm – 7:30 Monday (right before class) |
| <b>Class Days/Time:</b> | 7:30pm – 8:45 Monday, Wednesday           |
| <b>Classroom:</b>       | Duncan Hall 450                           |

**Course Format**

This class teaches how to use the Unity Game Engine and occasionally has in-class labs using Unity. Access to a laptop that can run Unity is required. This means you must have a laptop that runs Windows or macOS. It is recommended that your laptop run Windows 7 or above or macOS Mountain Lion or above.

**Faculty Web Page and MYSJSU Messaging**

Course materials such as syllabus, notes, assignment instructions, etc. can be found on my [personal web page](http://hpalace.com/sjsu-2016fall) at <http://hpalace.com/sjsu-2016fall> or on [Canvas Learning Management System course login website](http://sjsu.instructure.com) at <http://sjsu.instructure.com>. You are responsible for regularly checking with the messaging system through [MySJSU](http://my.sjsu.edu) at <http://my.sjsu.edu> (or other communication system as indicated by the instructor) to learn of any updates.

**Course Description**

In this class, we will make video games! This class covers using an existing game engine to make games, focusing on using the Unity Game Engine. There will also be discussion of how other engines are organized. By the end of the class, students will have made three video games. At least one of these games will be done as a group.

**Course Learning Outcomes (CLO)**

Upon successful completion of this course, students will be able to:

1. Understand how to break down games into their components.
2. Know common patterns in video game engines
3. Make a game with a team in Unity.

## Required Texts/Readings

### Textbook

There are no required books or reading. I will provide handouts at class or links to web pages when referencing material.

### Other Readings

These websites are always interesting and cover interesting game development news:

<http://gamasutra.com>

<http://gamedev.net>

The Unity3D forums are also excellent, full of many people both using and learning to use Unity3D:

<http://answers.unity3d.com>

<http://forum.unity3d.com>

## Course Requirements and Assignments

I expect to assign a small assignment about once every other week. Assignments will be given out on Wednesday and due the next Wednesday, with the first part of each Monday to cover any questions regarding the assignment. The class website will detail exactly what is expected for each assignment. In addition, there will be presentations given to the whole class. There will be no tests. Instead of tests, there will be projects.

This structure is designed to be similar to the experience you would have while employed. I have never had a test at any of my jobs!

Note that the assignment schedule is subject to change with fair notice.

## Final Examination or Evaluation

At finals you will be showing off your final project. This project will use all the knowledge you learned during the semester. Your final project will be graded in three categories, all equally weighted.

1. Completeness – Is the project a complete (though small) game? game
2. Stability – Is the project free of bugs?
3. Fun – Is the project actually a fun experience?

## **Grading Information**

### **Determination of Grades**

Your final grade is a weighted average of homework (30%), a project (30%), and a final project (40%). Your final grade is then determined as follows:

Grades will be based on the percentage of total points earned:

- A+ 98%-100%
- A 93% - 97%
- A- 90% - 92%
- B+ 88% - 89%
- B 83%-87%
- B- 80% - 82%
- C+ 78% - 79%
- C 73%-77%
- C- 70% - 72%
- D+ 68% - 69%
- D 60%-67%
- D- 50%-59%
- F 0% to 49%

Each homework will lose a small amount for every day it is late, not including holidays. Because of the nature of this class, it is important to turn in every homework assigned, even if it is late.

### **Classroom Protocol**

I hope that this class is one you look forward to throughout the week and will never be late to. Please do not show up late, as I will be starting promptly. Classes will be a mix of lecture, presentation, and group activities. Please make sure your cell phones are off or silent during the class.

### **University Policies**

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

# CS 185C Section 1, Unity Game Engine, Fall 2016, Course Schedule

The following schedule is tentative and subject to change. The schedule will be kept up to date on the [class website](http://hpalace.com/sjsu-2016fall) at <http://hpalace.com/sjsu-2016fall>.

## Course Schedule

| Week  | Date   | Topics, Readings, Assignments, Deadlines   |
|-------|--|--|
| 1     | Aug 24 <sup>th</sup>                                   | Hello! Introduction to the class.  |
| 2     | Aug 29 <sup>th</sup><br>Aug 31 <sup>st</sup>           | Intro to game engines – Game engine breakdown, drawing, collision detection.                         |
| 3     | Sep 5 <sup>th</sup><br>Sep 7 <sup>th</sup>             | <b>OUT FOR LABOR DAY</b><br>Intro to game engines – Scripting  |
| 4     | Sep 12 <sup>th</sup><br>Sep 14 <sup>th</sup>           | Intro to game engines – C# for Java programmers and non-programmers.<br>Unity overview – The basics. |
| 5     | Sep 19 <sup>th</sup><br>Sep 21 <sup>st</sup>           | Unity overview – Dynamic objects<br><b>OUT FOR AUSTIN GAME CONFERENCE</b>                            |
| 6     | Sep 26 <sup>th</sup><br>Sep 28 <sup>th</sup>           | Unity overview – 3D physics, events  |
| 7     | Oct 3 <sup>rd</sup><br>Oct 5 <sup>th</sup>             | Unity overview – Player motion, sound<br><b>Project 1 starts</b>                                     |
| 8     | Oct 10 <sup>th</sup><br>Oct 12 <sup>th</sup>           | Unity overview – 3D animation, 2D animation  |
| 9     | Oct 17 <sup>th</sup><br>Oct 19 <sup>th</sup>           | Unity overview – Multiple level support, debugging, immediate mode GUI                               |
| 10    | Oct 24 <sup>th</sup><br>Oct 26 <sup>th</sup>           | Virtual reality concepts<br>Review   |
| 11    | Oct 31 <sup>st</sup><br>Nov 2 <sup>nd</sup>            | Game day!<br><b>Project 1 due, Final Project starts</b>  |
| 12    | Nov 7 <sup>th</sup><br>Nov 9 <sup>th</sup>             | Advanced Unity – Skeletal animations importing   |
| 13    | Nov 14 <sup>th</sup><br>Nov 16 <sup>th</sup>           | Advanced Unity – Networking  |
| 14    | Nov 21 <sup>st</sup><br><del>Nov 23<sup>rd</sup></del> | Othe game engines – Compare and contrast<br><b>OUT FOR THANKSGIVING</b>                              |
| 15    | Nov 28 <sup>th</sup><br>Nov 30 <sup>th</sup>           | Advanced Unity – Flexible lectures 1   |
| 16    | Dec 5 <sup>th</sup><br>Dec 7 <sup>th</sup>             | Advanced Unity – Flexible lectures 2   |
| 17    | Dec 12 <sup>th</sup>                                   | Review   |
| Final | Dec 14 <sup>th</sup>                                   | Final is at 7:45pm, Duncan Hall 450 (same room as classes)   |