Location: School of Cinematic Arts - SCI (SCI) Room 108
Discord: https://discord.gg/YmQ2c6Cfgp

Instructor: Scott Easley
Office: Online
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Office Hours: By Request

Course Staff:
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Course Description

Students in this course will work in small teams to build games on mobile or desktop devices. The initial half of the course will focus on learning game development tools and how those can be utilized with game development. During the course, students will collaborate with each other through the use of programming, art, design, and production skills. The second half is game polish and expansion.

Working in a professional studio-like atmosphere, students in CSCI 526 will learn the fundamentals of team dynamic as it relates to game design and development, and develop a playable prototype for a game. In teams, students will take on the roles of Designers, Engineers, Producers, etc to learn both the basics of the roles as well as how they work together in a professional development studio setting. By taking CSCI 526 students learn how to create game pitches, build a design document and present it live in front of an audience. The course culminates with a polished, portfolio-quality vertical slice and professional quality supporting documentation.

Our game veteran instructor will provide key lectures and materials, giving students a chance to learn directly from game studio techniques and make networking connections.

Learning Objectives
Students learn fundamentals of core loops and design in games; basic technologies for game development platforms, including working with various, commonly-used APIs; how to perform market research and analysis; how to present a polished pitch; how to create effective design and engineering documentation; how to work on a team with defined roles to collaborate on a project

Course Notes
This course will assign a letter grade.

Students will submit work via Google Drive, Blackboard, and by showing builds to instructors and peers in class.
Students will work with other development and production tools, as discussed in class.

Required Readings and Supplementary Materials
Handouts, templates, games, and sample documents will be supplied by the instructors when assigned.

Description and Assessment of Assignments
Students will create both interactive experiences and documentation. The interactive experiences will be either simple prototypes of core game mechanics or a more polished vertical slice. Assignments will be graded on effort, collaboration, execution as compared to the goal, and overall quality.

Documentation may consist of: pitch presentations, design documents, technical specifications, playtesting logs, design journals, and other forms of documentation as assigned. Students will learn professional documentation and presentation techniques. Assignments will be graded on effort, collaboration, execution, and, where applicable, iterative improvement.

Grading Breakdown

Section	Assignment(s)	% of Grade	Due
Individual Learning	Unity Essentials Tutorial Unity Junior Programmer Pathway Selected Tutorials	10	Week 2 Week 3
Paired Exploration	Pair Prototype	10	Week 6
Team Exploration	Alpha Version (Graybox – Midterm 1)	20	Week 9
Team Development	Beta Version (Data Collection – Midterm 2)	20	Week 12
Team Improvement	Gold Version (Final)	30	Week 15
Participation	Attendance Genre Interest Survey Alpha Playtesting Beta Playtesting	10	
TOTAL		100	

Course Policies

Assignment Submission
Presentation to Grader: Some assignments may require students to present their assignments directly to the grader.
In-Class Presentation: Some assignments may require students to present their work during class sessions.
Survey Submission: For specific assignments, students may be asked to submit surveys or questionnaires as part of their coursework.
Google Drive Submission: For specific assignments, they can be electronically submitted through Google Drive. Students are required to follow the designated folder or file-sharing process.
Blackboard Submission: For specific assignments, students can submit their assignments via the Blackboard platform.

Missing an Assignment Deadline, Incompletes:
The only acceptable excuses for missing an assignment deadline or taking an Incomplete (IN) in the course are personal illness or a family emergency. Students must inform the course staff *before the assignment due date* and present verifiable evidence for a deadline extension to be granted. Students who wish to take incompletes must also present documentation of the problem to the instructor or student assistant before final grades are due.

For assignments turned in after the assignment deadline without prior permission, a penalty will be imposed equal to 10% of the total available points for the assignment, for each day or part of a day that the assignment is late, up to a maximum of seven days. Certain assignments may not be submitted late and will be indicated as such if this is the case.

Discord

The class makes use of the instant messaging social platform Discord. Discord provides a way for the teaching staff to communicate in an asynchronous manner similar to email, but also real-time communication when needed such as in class. It is the preferred method of communication when possible.

Lastly, students that contribute greatly to discussion, share useful links, and assist other students in the help channels may earn extra credit at the teaching staff's discretion.

Specific rules for channels will be updated as necessary on the server setup for this section.

Emails

We ask you to follow these rules to help the class go smoothly.

To ensure a speedy response, ask questions in the class Discord server when possible. This will help other students with similar questions to also see the response.

For general questions about the class, please ask on the class Discord server in the appropriate channels (under the category help-desk).

For questions about your team and game, please ask in the class Discord server in your own team's channel once it's set up. Please send emails only for personal questions/issues.

Please email with the subject as "CSCI526", and send it to all of the teaching staff (listed at the beginning of this document).
Use keywords such as Attendance, Grade,
"CSCI526-Attendance" for emails relating to attendance (see below).
"CSCI526-Grade" for emails relating to grades.

Attendance

Punctual attendance at all classes is mandatory. **This class is in-person only. Please note that there is NO remote component.** You are expected to stay and work with your team for the duration of the entire class. If the teaching staff does not find you when we check attendance, you may be marked as absent.

Excused absences are:
- Illness (with a doctor's verification)
- Family or personal emergency (with verification)

Please email ahead of the class with the email subject as "CSCI526-Attendance (and anything else relevant)" to all course staff. The staff will confirm that your verification is acceptable, please make sure it clearly indicates which classes/activities you will not be able to participate in and for how long.

Outside of the excused absence, each student may have (1) freebie. The student must still follow the attendance policy above, but can simply say they would like to use their freebie. Freebies may not be used during midterms or finals.

In addition, you must email your team and let them know. If the team doesn't know where you are or why you are gone, you will still be marked down as absent.

Lastly, being excused from class means you do not need to attend class. It does not mean you are excused from the content of the lecture or doing work for the week.

Software

All the course work can be done on freely available software.
We do not encourage nor condone the use of any paid software. Use it at your own discretion.

In addition, you may find packages, libraries, toolkits, starter kits, and other enhancements that you may want to use for your project. Any inclusion must be explicitly stated in the team's Game Design Document and made aware to the teaching staff. Otherwise, it may be considered plagiarism and be treated accordingly.

Diversity

In making games and interactive media in a professional and ethical way, it is important that you consider diversity. When looking at your projects, you should consider who is depicted and how this work will impact others. What kinds of individuals and communities are represented in your work? What point of view does your work express? This class may assist you in learning how to make work that includes diverse viewpoints, and may discuss racial, religious, gender and sexual orientation issues in the context of games and interactive media.

Creating an Inclusive Space

In this class, we make a commitment to foster a welcoming and supportive environment where students of all identities and backgrounds can flourish. This means that you will be expected to offer content warnings when appropriate, use students' stated pronouns, and respect self-identifications. While debate and discussion are welcome, please remain aware of the implications of your words and the images that you include in your work. If the instructor or another student points out something problematic, avoid being defensive; this is a valuable opportunity for us to grow and learn together. If you have a concern about any aspect of the class, you are welcome to speak with the instructor or the advisor for the division.

Additional Policies

This course emphasizes teamwork, and one of the desired learning outcomes is for students to develop communication and leadership skills. Students are expected to treat each other with respect, listen to each other, and work together towards a shared, collaborative, healthy work culture. Any student found to be disruptive or engaging in behavior that doesn't meet the standards of respectful teamwork may be asked to leave by the instructor.

If you experience any problems with a fellow student regarding their work, please bring up your concerns with the instructor.

PLEASE NOTE
FOOD AND DRINKS (OTHER THAN WATER) ARE NOT PERMITTED IN ANY INSTRUCTIONAL SPACES IN THE CINEMATIC ARTS COMPLEX

Course Schedule

Section and Weekly breakdown, subject to change

Section 1 - Individual Learning

Week	Day	Topics/Lectures	In-Class Activity	Homework (Due Next Class unless otherwise specified)
Week 1	Tuesday 1/09 Class 1	**What to Expect**: Introduction to course **Tools and Resources (Solo)**: Intro to Unity, IDEs, recording software **Unity Basics**: The essentials of the Unity game engine	Beginning of class survey Play student games from last semester Class & Setup Q&A	Join class Discord Install Unity & Unity Hub Unity Learn - Essentials (Due Class 2)
Week 2	Tuesday 1/16 Class 2	**Game Genres & Innovation**: Genres of gameplay and how to innovate known formulas **Game Intro**: Basics of game development	Brainstorm genre mashing in groups Student presentations of genre mashing w/ feedback Unity Q&A	Unity Learn - Junior Programming Pathway ● Getting Started ● Unit 1 ● Intro to Project Management & Teamwork (Due Class 3)
Week 3	Tuesday 1/23 Class 3	**Designing Innovative and Intuitive Mechanics**: Using theme to inform design **Prototyping Basics**: Creating game prototypes **Unity Intermediates**: Frames, events, and time in Unity	Brainstorm innovative design in groups	Genre interest survey (Due by end of 1/23)

Section 2 - Paired Exploration

Week	Day	Topics/Lectures	In-Class	Homework (Due Next Class unless otherwise specified)
Week 4	Tuesday 1/30 Class 4	**Game Structure Basics**: Fundamentals of game design **Game Jams**: Introduction to rapid development **Team Tools and Resources (Team)**: Communication, task management, source control, documentation	Jam genre theme voting Pair formation, and brainstorming	Paired Prototype (Due Class 6)
Week 5	Tuesday 2/06 Class 5	**Game Loop vs. Core Loop**: Game loops **Unity UI**: Menus, canvases, responsive design for UI in Unity	Dev time	
Week 6	Tuesday 2/13 Class 6	**On Significant Mechanics**: Game mechanics	**EXAM 1** - Student presentations of paired prototypes Fill-in teamfinding spreadsheet and begin forming teams	Form a team (Due Class 7)

Section 3 - Team Exploration

Week	Day	Topics/Lectures	In-Class	Homework (Due Next Class unless otherwise specified)
Week 7	Tuesday 2/20 Class 7	**Marshmallow Challenge**: An exercise in iterative design **Risk and Reward**: Choice and incentives in game design **Data-Driven Game Design**: Using analytics and statistics to drive design + **Data Collection & Visualization**: Collecting, storing, and visualizing analytic data	Finalize teams Undertake the marshmallow challenge	Alpha prototype progress check (Due Class 8)
Week 8	Tuesday 2/27 Class 8	**How to Playtest**: Playtesting and quality assurance in games **Intro to Pods**: Presenting in groups **Debugging, Design Patterns, Passing Values**: Debugging in Unity and Game Design **Game UI and UX**: Designing a good user experience	Show live playtesting example Same-Pod playtesting Team work	Produce a first playable graybox prototype alpha (Due Class 9)
Week 9	Tuesday 3/05 Class 9	**Better Tutorials Through Scaffolding**: Using incremental design to introduce complexity **Designing a Questionnaire**: Using surveys to gather data	**EXAM 2** - Presenting alpha graybox prototypes in-pod Team work	Playtest same pod's games & fill out surveys (Due Class 10) Produce a playable beta prototype (Due Class 12)

Section 4 - Team Development

Week	Day	Topics/Lectures	In-Class	Homework (Due Next Class unless otherwise specified)
		03/10 - 03/17 Spring Recess		
Week 10	Tuesday 3/19 Class 10	**Guiding Your Player Invisibly**: Using design to guide and teach a player **Innovating on Progression**: Making player progression compelling **Graph Interpretation and Visualization**: Visualizing and interpreting data	Same-pod playtesting Team work	Beta prototype progress check (Due Class 11)
Week 11	Tuesday 3/26 Class 11	**Mobile Game Controls**: Minimal design for mobile games **How to Make a Sound Hypothesis**: Using data to discern problems **Space & Time in Unity**: Loading scenes, resets, and scaling time in Unity		Continue working on beta prototype (Due Class 12)
Week 12	Tuesday 4/02 Class 12	**Visual Storytelling & Visual Design**: Art in game **Prototyping Physics -> Optimization**	**EXAM 3** - Presenting beta graybox prototypes	Playtest other student games & fill out surveys (Due Class 13)

Section 5 - Team Improvement

Week	Day	Topics/Lectures	In-Class	Homework (Due Next Class unless otherwise specified)
Week 13	Tuesday 4/09 Class 13	**Aiming for Gold**: Prioritizing for a near deadline **Case Study: Spurpunk Development**: The development of a tower defense game **Exporting from Excel to XML**: Storing data in application-readable formats	Cross-pod playtesting Team work	Hypothesize issues from surveys and analytics data Finish and present your prototype (Gold version) (Due Class 15)
Week 14	Tuesday 4/16 Class 14	**Getting a Job in the Game Industry**: Finding games jobs	Cross-pod playtesting Team work	
Week 15	Tuesday 4/23 Class 15	**Final Lesson**: A retrospective, and moving forward	**FINAL EXAM -** Presenting gold prototype End of class survey	Live an awesome life!

Syllabus Updates

This syllabus is liable to change up to the beginning of class and possibly over the semester. Please check the posted syllabus regularly, and note all changes that are shared by the instructor in class.

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "**Behavior Violating University Standards and Appropriate Outcomes**"
https://policy.usc.edu/scampus/.

Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct,
https://policy.usc.edu/research-and-scholarship-misconduct/.

Discrimination, sexual assault, intimate partner violence, stalking, and harassment are prohibited by the university. You are encouraged to report all incidents to the *Office of Equity and Diversity/Title IX Office* http://equity.usc.edu and/or to the *Department of Public Safety* http://dps.usc.edu. This is important for the health and safety of the whole USC community. Faculty and staff must report any information regarding an incident to the Title IX Coordinator who will provide outreach and information to the affected

party. The sexual assault resource center webpage https://studenthealth.usc.edu/sart-resources/ fully describes reporting options. Relationship and Sexual Violence Prevention Services https://studenthealth.usc.edu/sexual-assault provides 24/7 confidential support.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://ali.usc.edu, which sponsors courses and workshops specifically for international graduate students. *The Office of Student Accessibility Services and Programs* https://osas.usc.edu/ provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* http://emergency.usc.edu will provide safety and other updates, including ways in which instruction will be continued by means of Blackboard, teleconferencing, and other technology.

Disruptive Student Behavior

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Judicial Affairs for disciplinary action