CTC 305 – Introduction to Game and Mobile Programming
Fall 2020

Instructor	*G. Poppe*	**E-Mail**	gpoppe@csudh.edu
Phone	310-243-2417	**Office**	LIB 5717 (5th floor old library)
		Office Hours	Online by appointment
Classroom	Online	**Class Time**	MoWe 11:30AM - 12:45PM
Phone	(310) 243-3398	**URL**	http://csc.csudh.edu

COURSE DESCRIPTION:

This course teaches students through lectures, discussions, demonstrations, and classroom labs. Students learn the knowledge, skills, and abilities necessary to create games and applications on devices other than typical computers such as mobile devices, game consoles, etc. This course is intended for people interested in developing games.

PRE-REQUISITES

None

TEXTBOOK

None

COURSE GOALS:

The primary objective of this course is to teach students to develop short mobile device applications and game programming. The course presents the process in developing games and mobile applications using existing tools, techniques, and programming languages.

SPECIFIC INSTRUCTIONAL GOALS:

The purpose of the course is to provide the student with an overview of the field of Game and Mobile Programming through two capstone projects.

COURSE OUTCOMES:

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

- Understand the use and application of “cloud” computing and the design of web based games
- Understand the fundamentals of program construction including the implementation of blocks, conditional statements, loops, and switch constructions.
- Make use of collections in programs, including arrays, lists, and dictionaries.

- Understand the principles of test---driven development and the steps to be followed when creating software using this technique.
- Be able to construct the setup, update and draw behaviors to create a working game.
- Make use of existing resources in the creation of 2D sprite---based games, including Color, Sprite Batch, Texture2D, Sprite Font, Rectangle, Point, Vector, Sound Effect, Song, Network Session, Gamepad State, and Keyboard State.
- Use a Content Manager to add textures and sound content to a game, and content loading methods to retrieve the content when the game runs.
- Use the gamepad and keyboard as input devices.
- Use of Network application programmer interface to create networked games with a game lobby.
- Create pseudo-3D displays by use of overdrawing and sprite scaling.
- Create animated sprite game elements.
- Use the random number generator in game play to introduce randomness to game play elements and behaviors.
- Manage the deployment of games to the cloud, Xbox, Windows PC, Android, and/or other devices.
- Debug programs using breakpoints, single stepping, and viewing the contents of variables.
- Create applications based on HTML5 coding using third party development software.

ATTENDANCE:

Students are expected and encouraged to attend lectures and contribute to discussions. It is the student's responsibility to contact the instructor as early as possible if he/she cannot attend class. There will be no make-up opportunities, although all classes will have companion videos available online.

The student is responsible for materials missed during an absence, whether excused or not. Classes will start at the prescribed time and will end at the prescribed time. Instructor will be available during the posted office hours and you may make an appointment for times not posted.

AMERICANS WITH DISABILITIES ACT

CSUDH adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Disabled Student Services (DSS) and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: no accommodation can be made until you register with the DSS. For information call (310) 243-3660 or to use the Telecommunications Device for the Deaf, call (310) 243-2028 or goto: http://www4.csudh.edu/dss/

COMPUTER INFORMATION LITERACY EXPECTATIONS

It is expected that students will:

1. *Use Microsoft Word for word processing unless otherwise approved by the instructor.*
2. *Be familiar with using email as a communication tool and check your official campus email account at least every other day.*
3. *Be able to access websites and online course materials which may require Flash and other plug-ins.*
4. *Use the library databases to find articles, journals, books, databases and other materials.*
5. *Be able to create an effective PowerPoint presentation.*
6. *Be able to record audio (ideally video) to share with the instructor via the web.*
7. *Have regular access to a computer and internet access for the term of this course.*

Technology Requirements

Computer:

You must have access to a reliable computer for this course. If you are on campus, and do not have a laptop, you can check out a laptop from the IT User Services Help Desk via Technology Checkout Program. In addition, the CSUDH Toro Lab offers on campus access to workstations with a wide variety of commonly used software.

Visit the CSUDH Academic Technology Online Courses Technical Requirements page for more information on technology requirements.

Email:
All email communications from this course will go through your Toromail. Toromail is the CSUDH student email system.

Internet and Campus Wireless Network:
You must have Internet access to participate in this course. If you are on campus, connect your laptop and mobile device to the internet using the eduroam campus wireless network.

Office 365:
Course work will require you to submit work in Word format (.docx files). Active CSUDH students have access to Office 365 (Word, Excel, PowerPoint) for personal desktop and laptop computers at no cost.

ACADEMIC INTEGRITY

Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. ***All work turned in by a student for a grade must be the students' own work.*** Plagiarism and cheating (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course.

BEHAVIORAL STANDARDS

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. The instructor may require a student responsible for disruptive behavior to leave class pending discussion and resolution of the problem and may also report a disruptive student to the Student Affairs Office (WH A-410, 310-243-3784) for disciplinary action.

COURSE POLICIES:

- Deliverables (Class Assignments, Projects) submitted late are not accepted.
- Deliverables (Class Assignment, Projects) not submitted before the end of the final class will earn 0%.
- Any exceptional, non-academic circumstances need to be discussed with the instructor as soon as they arise, prior to the due date of the deliverable. At the time of the discussion, NO make-up work will be assigned.

The instructor reserves the right not to award credit for deliverables that are incomplete. Partial credit is awarded at the instructor's discretion, and only for work that merits such an award. Assignments that are incomplete or incongruous with the specifications may be returned to the student.

MIDTERM & FINAL PROJECT:

Midterm project is during the 8th week of the class and the date for the final exam is based on the final examination schedule printed in the campus Class Schedule. All projects are due no later than the last week of the semester.

No makeup or early exams will be administered.

GRADES:

The following grading scale will be used:

Score	Grade	Score	Grade
96-100	A	90-95	A-
87-89	B+	83-86	B
80-82	B-	77-79	C+
73-76	C	70-72	C-
67-69	D+	63-66	D
0-62	F		

GRADING:

The weighting of the coursework is listed below:

Midterm Project 20%

Final Project	**30%**
Homework/quiz	**30%**
Project Milestones	**20%**
Total:	**100%**

TOPIC OUTLINE (Will be conducted according the following. However, the schedule of the topics schedule or timetable may be varying slightly)

Tentative Course Schedule

WEEK #	DATE	TOPIC	*Reading Assignment/ Computer Lab Topic/In Class Assignments*
Week 1	8/24/20	Course Introduction & Requirements/ Overview of References, Blackboard / Intro to Construct2	Lab #1
Week 2	8/31/20	Game Design Basics and Formatting	Lab #2
Week 3	9/7/20	Platformers	Lab #3/Quiz #1
Week 4	9/14/20	Animations/sounds	Lab #4
Week 5	9/21/20	Turret Defense	Lab #5
Week 6	9/28/20	Vertical Space Shooter	Lab #6
Week 7	10/5/20	Mid-term Game	Midterm Project Due
Week 8	10/12/20	**Mid-term Presentations**	Quiz #2
Week 9	10/19/20	Side Scrolling Game	Lab #7
Week 10	10/26/20	Procedural Generation	Lab #8
Week 11	11/2/20	Procedural Generation Continued	Lab #9/Quiz #3
Week 12	11/9/20	Final Project Milestones	Milestone #1 Due
Week 13	11/16/20	Final Project Milestones	Milestone #2 Due
Week 14	11/23/20	Final Project Milestones	Milestone #3 Due
Week 15	11/30/20	Publishing	***Due for Final Project Report, Presentation***
Week 16	12/9/20	**Final Project Presentations**	**The Final Exam 12/11/19**