Game Design 205:
Game Programming II

Eugenio María de Hostos Community College - Humanities Dept.

***In order to continue in this class beyond the first week, all enrolled students must complete the [Course Intro & Agreement Form](#) before the start of class in the second week of the semester. ***

Spring 2018 Syllabus

Game Programming II

Basic Course Info

Course	GD 205-510A
Class Number	49915
Course Title	Game Programming II
Meets	Spring 2018 / Wednesdays 2-4:45pm / C-456
Credit Hours	3
Instructor	Professor Alec McClure
Class Site	hostosmdp.ryver.com
Email	amcclure@hostos.cuny.edu / alexander.mcclure@gmail.com (emergencies only)
Office/Hours	C-415 - Mon 3-4pm, Thu 12-2pm (by appointment)
Phone	718.518.6682

Course Description

This course builds on students' programming knowledge and strengthens the foundations and fundamentals of programming with a focus on the creation of games. Here, students build an increased familiarity with programming concepts such as variables, scope, iteration, conditionals as well as basic animation techniques, and with these tools students create a series of game interactions in preparation for conceptualizing and building a final small game. This course also covers Artificial Intelligence, Collision, and Physics algorithms as well as teaching students how to use a variety of pre-built game architectures.

Prerequisites

GD105 Game Programming I

Course Objectives

By the end of the course, students should:

- Show clear mastery or growth of goal achievement using code throughout the course, as demonstrated by each of the weekly assignments.
- Successfully employ fundamental programming concepts (loops, conditional statements, arrays, etc.) in pursuit of solutions to novel coding problems.
- Clearly communicate coding strategies used in pursuit of these solutions both verbally and in the form of comments left within their code.
- Students should have a robust understanding of the nature of Object-Oriented Programming, being able to manipulate object and class relationships both in the Unity Editor and using C#/Unity API scripting.
- Demonstrate use of and familiarity with version control technology (i.e. Github)

Recommended Purchases

- *Wireless USB Mouse* - We will be working in Unity, which is a 3D development environment, for which a wireless mouse is HIGHLY recommended. These can be found for as little as $5.
- *USB Drive* - Either a bus-powered portable hard drive or a very fast USB flash drive with at least 32GB of storage is recommended for storing project files. Students with laptops can alternatively use their personal computers for coursework and are encouraged to do so.

Commitment to Diversity and Safer Spaces ([source](#))

We understand the classroom as a space for practicing freedom; where one may challenge psychic, social, and cultural borders and create meaningful artistic expressions. To do so we must acknowledge and embrace the different identities and backgrounds we inhabit. This means that we will use preferred pronouns, respect self-identifications, and be mindful of special needs. Disagreement is encouraged and supported, however our differences affect our conceptualization and experience of reality, and it is extremely important to remember that certain gender, race, sex, and class identities are more privileged while others are undermined and marginalized. Consequently, this makes some people feel more protected or vulnerable during debates and discussions. A collaborative effort between the students and instructor is needed to create a supportive learning environment. While everyone should feel free to experiment creatively and conceptually, if a class member points out that something you have said or shared with the group is offensive, avoid being defensive; instead approach the discussion as a valuable opportunity for us to grow and learn from one another. Alternatively if you feel that something said in discussion or included in a piece of work is harmful, you are encouraged to speak with the instructor.

Assignments

This is a studio course involving a combination of lecture, project activities, and discussion of assigned readings. Staying on top of the reading assignments is essential in order to be informed and make contributions during in-class discussions and activities. These readings will reference and introduce concepts and vocabulary that may at times be unfamiliar and so require students to do independent research. This will be expected.

25% of the grade will be based on engagement and consistent attendance. The balance of the grade will be determined by several evaluations of the work undertaken over the 15 week course.

Submission & Class Ryver

Assignments are required to be turned in as a post on the class team blog on at least an hour before the start of class. I will be reviewing that week's posted assignments during this pre-class period. If a student has not posted the assignment by this point in time, it will be marked with a grade of **0** points. Students that have a display name not matching their roster name will not be able to receive credit.

We will plan on ensuring access to Ryver and the class team on the first day of class. Please [e-mail me](#) or see me during office hours for any technical problems you may be having.

Extra Credit

Throughout the semester, there may be opportunities for extra credit to be earned. In order to receive the extra credit, students must complete the assignment in full and post it to the team by the deadline. Extra credit opportunities will be listed in the Extra Credit

Forum on Ryver. There may also be additional extra credit opportunities offered during class time and hidden in lecture materials with specific instructions for receiving credit.

Participation

Every student begins the term with full participation points (a quarter of the total grade). Regular attendance is required in order to maintain a proper grasp of the material, participate in discussions and class activities, as well as maintain a good participation grade.

Attendance will be taken every single class. Students enrolled in this course will be allowed a fixed number of flexible absences for any reason throughout the semester (including both those that would traditionally be considered excused and unexcused). No points will be deducted from the grade for all absences up to the number chosen or allotted by default for the student.

Students will indicate how many flexible absences they want allotted before the second class of the semester. **There will be no excused absences beyond the number allotted.** It is recommended that students choose the smallest number of absences that they can strive to achieve. Setting high, but realistic standards for oneself encourages better performance. The option chosen will be permanent for the remainder of the semester and cannot be changed.

For each class session missed in excess of the allotted amount, **30%** of participation points will automatically be deducted. Lateness is highly discouraged; 3 tardies will be treated as one absence. Students arriving more than half an hour late will be considered absent and marked accordingly.

Severe, life-changing emergencies leading to excess absences will be evaluated on a case-by-case basis. However, these are exceedingly rare and should not be something that comes up more than once every few years.

Grade Breakdown

Assignment	Description	Value
Final Instructor Evaluation	For the last day of the class, students will be required to give a formal presentation of their work from the semester, from individual assignments up to the final game design. 1/4 of the grade will be determined based upon the instructor's evaluation of course objective achievement for each student.	1/4
Final Communal Evaluation	1/4 of the grade will be evaluated based upon peer evaluations of the course objective achievement, as determined by a consensus of the class body earlier in the semester.	1/4

Final Individual Evaluation	1/4 of the grade will be determined by individual self-evaluation, based upon an individually constructed list of course objectives. **In the event that a student does not submit the required rubric for self-evaluation before the deadline, these points will instead be divided equally between the instructor and communal evaluations.**	1/4
Participation	A quarter of the grade will be allocated based upon regular attendance of the class, in-class participation and the completion of weekly assignments.	1/4
Total		**4/4 (100%)**

Notes on the grading criteria:
Work will be evaluated according to the following criteria:

• Understanding and interpretation of core concepts

• Research and Analysis of related issues

• Contribution to in-class discussion

Tentative Course Schedule

Readings must be completed for each class. Not all assigned texts will be discussed in class or covered in the class lectures.

<u>Please note that this schedule is tentative and subject to change</u>
Please check the class blog for the most recent assignments and updates

Week	Class	Lecture	Due	Reading
1	2018.01.31	Class Intro; Class Blog Setup; Intro to Unity; Rubric assignment		Unity Beginner Scripting Tutorials 1-5; Paul Ford's *What is Code?*
2	2018.02.07	Programming Concepts: Variables, Conditionals	Ind. Student Rubric; Course Agreement Form	
3	2018.02.14	Programming Concepts: Loops	CE1	

4	2018.02.21	Programming Concepts: Functions	CE2	
5	2018.02.28	Programming Concepts: Arrays	CE3	
6	2018.03.07	Programming Concepts: Objects	GE1	
7	2018.03.14	Raycasting		
8	~~2018.03.21~~	<mark>NO CLASS (GDC)</mark>		
9	2018.03.28	Additional Raycasting	GE2	
	~~2018.04.04~~	<mark>NO CLASS (Spring Break)</mark>		
	~~2018.04.11~~	<mark>CLASSES FOLLOW A FRIDAY SCHEDULE</mark>		
10	2018.04.18	Presentation: Final Game Proposal Each student will prepare a small game proposal in the form of a short formal presentation. These presentations will detail the goal of their game, its core mechanic, the narrative, coding strategy, assets needed to build, and precedents being referenced. The class will review and critique these proposals and students will spend the last third of the semester building and testing their games.	GP	
11	2018.04.25	Production: Prototype 1 / Testing; Animation The first prototype should demonstrate the student's ability to develop and code the game's core mechanic.	FGP1	
12	2018.05.02	Production: Prototype 2 / Testing The second prototype should introduce graphic assets to the game and other game assets (e.g. timer, score, etc.).	FGP2	
13	2018.05.09	Production: Prototype 3 / Testing The third and final prototype should have a refined core mechanic, working visual assets, and the larger game environment (start screen, game over, score, sounds,	FGP3	

		etc.) put in place. This prototype will require observed and recorded play testing for final presentation and critique the last day of classes.		
14	2018.05.16	Mandatory Individual Meetings		
15	2018.05.23	**Final presentation of goal achievement throughout the semester.**	FG	

Hostos-wide Academic Policies

Hostos Community College believes that developing student's abilities to think through issues and problems by themselves is central to the educational process. Since the Hostos College degree signifies that the student knows the material s/he has studied, and the practice of academic dishonesty results in grades or scores that do not reflect how much or how well the student has learned, understood, or mastered the material, the College will investigate any form of academic dishonesty brought to its attention. If the charge of academic dishonesty is proved, the College will impose sanctions. The three most common forms of academic dishonesty are cheating, plagiarism, and bribery.

Cheating (from Catalogue)

In the collegiate setting, cheating is defined as the purposeful misrepresentation of another's work as one's own. Faculty and students alike are responsible for upholding the integrity of this institution by not participating either directly or indirectly in act of cheating and by discouraging others from doing so.

Plagiarism (from Catalogue)

Plagiarism is a form of cheating which occurs when persons, even if unintentionally, fail to acknowledge appropriately the sources for the ideas, language, concepts, inventions, etc. referred to in their own work. Thus, any attempt to claim another's intellectual or artistic work as one's own constitutes an act of plagiarism.

Bribery (from Catalogue)

In the collegiate setting, bribery involves the offering, promising, or giving of items of value, such as money or gifts, to a person in a position of authority, such as a teacher, administrator, or staff member, so as to influence his/her judgment or conduct in favor of the student. The offering of sexual favors in exchange for a grade, test score, or other academic favor, shall be considered attempted bribery. The matter of sexual favors, either requested or offered, in exchange for a grade, test score or other academic favor, shall also be handled as per the Sexual Harassment procedures of the College.

College Attendance Policy (from Catalogue)

Students are expected to attend all class meetings in the courses for which they are registered.

Classes begin at the times indicated in the official schedule of classes. Arrival in class after the scheduled starting time constitutes lateness.

The maximum number of absences is limited to 15% of the number of scheduled class hours per semester and a student absent more than the indicated 15% is deemed excessively absent. Attendance is monitored from the first official day of classes. In the case of excessive absences or lateness, the instructor has the right to lower the grade, assign a failing grade, or assign additional written work or readings.

Absences due to late registration, change of program, or extenuating circumstances will be considered on an individual basis by the instructor. Each department and program may specify in writing a different attendance policy. Instructors are required to keep an official record of student attendance and inform each class of the College's or department's attendance policy.

NOTE:

• Any work missed during any period of absence must be made up by the student.

• To meet financial aid criteria, a student must attend class at least once in the first three weeks and once in either the fourth or fifth week of class.

ADA Statement

As required by the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, reasonable accommodations are provided to ensure equal opportunity for students with verified disabilities.

If you have a disability that requires accommodations, contact:

Accessibility Resource Center
Savoy (D) Building
120 Walton Ave, Room D101P
Bronx, NY 10451
Phone: (718) 518-4454 (Voice/TTY)

If you are already registered with ARC and have a letter from them verifying that you are a qualified student with a disability, please present the letter to the instructor as soon as possible. The instructor will work with you and ARC to plan and implement appropriate accommodations.

Please Note:

Students who do not register with the ARC office and have their disability verified are not eligible to receive any special accommodations.

Additional Policies

- CUNY Policy on Academic Integrity
- Política de Integridad Académica de CUNY [Spanish]
- Policy on retention of academic records
- CUNY Uniform Grade Symbols: Glossary and Guidelines

- CUNY [Testing Policy for students with disabilities](#)
- CUNY Policy on [Drug and Alcohol](#)
- CUNY [Testing Policies and Procedures](#)
- State Education Department [rules on awarding credit for same courses in different degree programs.](#)
- [Religious Accommodation of Students - Memo from General Council.](#)
- [CUNY student complaint procedure](#)
- [Board of Trustees resolution on articulation and transfer](#)