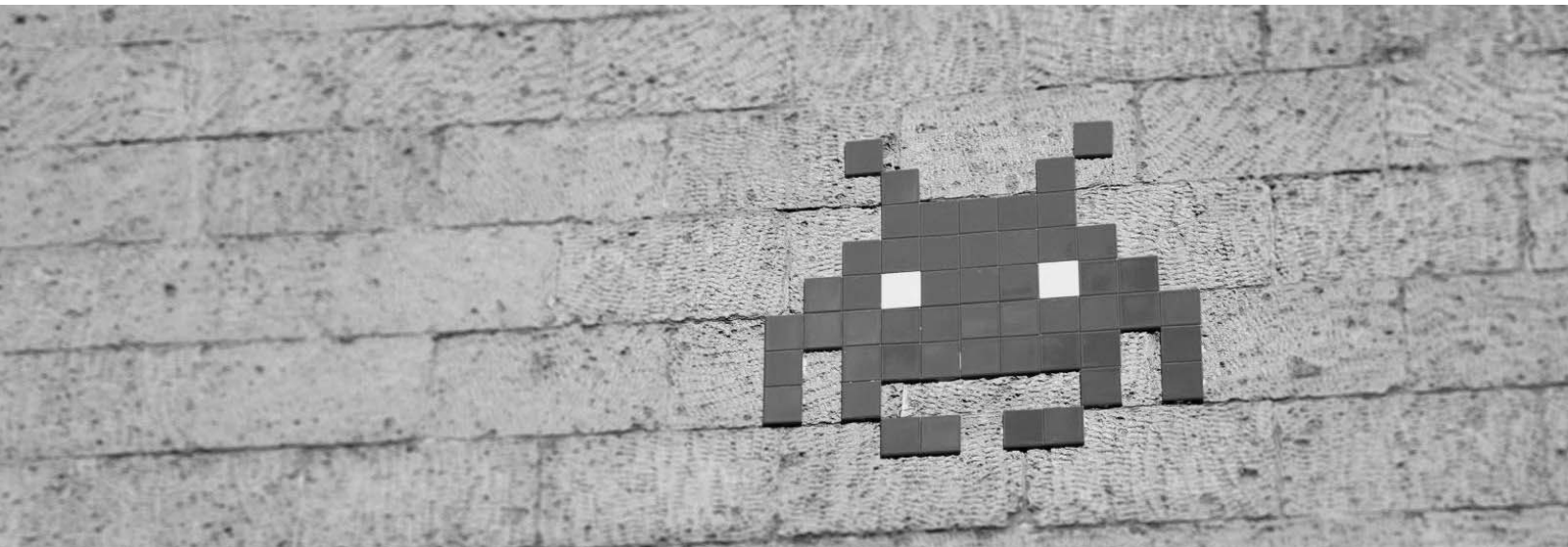


# Intro to Game Programming

**CS-UY 3113**

Spring 2020

Online



## Hello!

My name is Carmine T. Guida and welcome to Game Programming! Games have existed for thousands of years and the advent of video games provides a new medium for expressing your creativity through programming.

**What you build in this class will be unique to you!**

Email me [cguida@nyu.edu](mailto:cguida@nyu.edu) with any comments, questions or concerns. Always use your @nyu.edu email address.

---

## What will I learn and be able to do by the end of this course?

You will be able to create simple 2D games. You will learn about vectors, coordinate systems, sprites, collisions, physics, audio and handling input. This will all be done with C++ programming and utilizing the SDL (Simple DirectMedia Layer) libraries along with OpenGL.

---

## Is there a textbook for this course?

There is no textbook for this course. All instruction is through the lectures.

---

## What kind of computer and software do I need?

You need to use either a Mac or Windows computer. You do not need a powerful machine as we are not writing anything super complicated. For Mac users, you'll be using Xcode. For Windows, you will be using Visual Studio. These are both freely available.

---

## What is the schedule of topics each week?

This list might change a bit throughout the semester. The schedule for each week is as follows:

|                                 |                             |
|---------------------------------|-----------------------------|
| Introduction                    | Platformer Levels           |
| Linear Algebra                  | Effects and Shaders         |
| Basic Graphics with OpenGL      | Particle Systems            |
| Input, Time-Based Movement      | Introduction to 3D Graphics |
| Sprites and Sprite Animation    | Advanced 3D Graphics        |
| Game Physics and Fixed Timestep | Prototyping and Polishing   |
| Audio                           | Special Topic               |
| AI Programming                  |                             |

---

## How does the grading work in this class?

Your grade is based on the following:

|                                     |     |
|-------------------------------------|-----|
| Participation / Project Reflections | 5%  |
| Project 1: Draw a Simple 2D Scene   | 10% |
| Project 2: Pong                     | 10% |
| Project 3: Lunar Lander             | 15% |
| Project 4: Rise of the AI           | 15% |
| Project 5: Platformer               | 20% |
| Final Project: Students' Choice     | 25% |

All work is to be done on your own. The final project can be a team of 2 or on your own.

**There is no Extra Credit** in this course and the grades are **not curved**.

---

## Participation?

You are **required** to post in the forums/discussion boards as part of your grade. You will discuss various topics and write a reflection for each project. Discussions are meant to be timely and will be **locked after 1 week**.

---

## What are the due dates and how are the projects submitted?

**Look at NYU Classes** to see the due dates. It is your responsibility to be aware of the due dates for the projects.

You must submit your code by the due date as a link to a **GitHub** repository. You will post the links to the Assignments area in NYU Classes. **Do not share your code!**

Due by 11:59pm means your project was successfully uploaded by that time. Start uploading your project at least an hour before the deadline. **Projects received 1 minute late are considered to be a day late.**

If there are any issues with uploading your project, you must **email me before the due date.**

While I check email regularly, **do not expect a response over the weekend or close to deadlines.**

Your code must compile. Code that does not compile will receive a grade of 0.

Late projects will have **10 points deducted per day**. Late projects will **not be accepted after 3 days**.

---

## Where can I find the resources, libraries, assets, lecture slides for this course?

All of the above are available in the following GitHub repository. Note that lecture slides and project requirements may be delivered as we go:

<https://github.com/carminguida/CS3113>

---

## Plagiarism is strictly forbidden!

The Final Project is the only team project, otherwise all work in this class is to be your own! If you use code that is not your own, use someone else's project as a reference, use any code you found online or in any kind of tutorial, you will get a 0.

---

## Moses Center Statement of Disability

If you are a student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities (CSD) at 212-998-4980 or [mosescsd@nyu.edu](mailto:mosescsd@nyu.edu). You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at [www.nyu.edu/csd](http://www.nyu.edu/csd). The Moses Center is located at 726 Broadway on the 3rd floor.

---

## **NYU School of Engineering Policies and Procedures on Academic Misconduct – complete Student Code of Conduct [here](#)**

A. Introduction: The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness, and students at the School of Engineering are expected to exhibit those qualities in their academic work. It is through the process of submitting their own work and receiving honest feedback on that work that students may progress academically. Any act of academic dishonesty is seen as an attack upon the School and will not be tolerated. Furthermore, those who breach the School's rules on academic integrity will be sanctioned under this Policy. Students are responsible for familiarizing themselves with the School's Policy on Academic Misconduct.

B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:

1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person's work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.
2. Fabrication: including but not limited to, falsifying experimental data and/or citations.
3. Plagiarism: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.
4. Unauthorized collaboration: working together on work meant to be done individually.
5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.
6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.

---

## NYU School of Engineering Policies and Procedures on Excused Absences – complete policy [here](#)

- A. Introduction: An absence can be excused if you have missed no more than **10 days of school**. If an illness or special circumstance has caused you to miss more than two weeks of school, please refer to the section labeled Medical Leave of Absence.
- B. Students may request special accommodations for an absence to be excused in the following cases:
1. Medical reasons
  2. Death in immediate family
  3. Personal qualified emergencies (documentation must be provided)
  4. Religious Expression or Practice

Deanna Rayment, [deanna.rayment@nyu.edu](mailto:deanna.rayment@nyu.edu), is the *Coordinator of Student Advocacy, Compliance and Student Affairs* and handles excused absences. She is located in 5 MTC, LC240C and can assist you should it become necessary.

---

## NYU School of Engineering Academic Calendar – complete list [here](#).

The last day of the final exam period is **\_May 19th 2020\_**. Final exam dates for undergraduate courses will not be determined until later in the semester. Final exams for graduate courses will be held on the last day of class during the week of **\_May 11th 2020\_**. If you have two final exams at the same time, report the conflict to your professors as soon as possible. Do not make any travel plans until the exam schedule is finalized.

Also, please pay attention to notable dates such as Add/Drop, Withdrawal, etc. For confirmation of dates or further information, please contact Susana: [sgarcia@nyu.edu](mailto:sgarcia@nyu.edu)

