

## Course Info

- Course Title: Object-Oriented Programming
- Section Number: 001
- Course Number: CSCI-UA.0470
- Meeting Time: Monday and Wednesday 5:45pm - 7:50pm
- Loc: Online
- ZoomLink: TBD
- Course HomePage: <https://cs.nyu.edu/courses/summer24/CSCI-UA.0470-001>
- Course Instructor:
  - Hasan Aljabbouli (ha2285@nyu.edu)
  - Office Hours (Remote Only) :
    - Online Only - Monday and Wednesday 11:00am-12:00pm (or by appointment)
- Course Tutor:
  - TBD
  - Office Hours:
    - TBD

## Course Description

The goal of this course is to learn how to build and evolve large-scale programs using object-oriented programming. To this end, the course introduces the important concepts of object-oriented languages and design, and explores how these concepts are implemented.

In exploring object-oriented programming, we investigate three questions:

- Design: How do we think about a program in terms of objects. To answer this question, we explore UML, and design patterns.
- Language Primitives: How do we express object orientation? To answer this question, we explore classes, interfaces, inheritance, method dispatch, generics, operator overloading, and reflection.
- Language Implementation: How do we realize object-oriented primitives? To answer this question, we explore virtual method dispatch and automatic memory management in detail.

Design and primitives matter because they represent the essence of object-oriented programming. Implementation matters because it enables us to debug object-oriented programs and tune their performance.

The course will cover different topics including:

- OOP Principles
- Writing code using Java and C++
- Arrays in Java and C++
- Implementing Inheritance
- Multiple Inheritance
- Method Overriding and Overloading
- Design Patterns Principles

Prerequisites: Computer Systems Organization (CSCI-UA 201).

Acknowledgments: This course is based on the Object-Oriented Programming course designed by Robert Grimm.

## Book

- Required:
  - None
- Recommended:
  - [Object-Oriented Design and Patterns, 2nd ed.](#) by Cay Horstmann, Wiley, 2005
  - C++ for Java Programmers by Mark Weiss, Prentice Hall, 2003.
  - [The C++ Programming Language, 4th ed.](#) by Bjarne Stroustrup, Addison-Wesley, 2013.

## Grading

Your grade in this course will be determined based on the items below. Note that the following rubric serves as a guideline for how grades will be calculated. The final percentage allotted to each category is at the instructor's discretion.

- 25%: Assignments
- 20%: Quizzes
- 20%: Midterm
- 15%: Project
- 20%: Final

Scale	Letter
94-100	A
91-93	A-
87-90	B+
84-86	B
80-83	B-
77-79	C+
74-76	C
70-73	C-
67-69	D+
65-66	D
0-65	F

## Assignments/Projects Policy

- **Submission:**
  - All assignments/projects should be turned in **electronically** via **NYU BrightSpace** (DO NOT send the assignment via email to the instructor, Email Submissions will NOT be acceptable and will be totally ignored).
  - One submission is allowed **ONLY** and it is your responsibility to submit a valid/correct file (Resubmission is NOT allowed even if the file was not correct or corrupted).
  - You must **write your own code**
    - (don't copy other students' work, solutions found online, etc.)
    - Do not distribute your code
    - However, helping students by debugging or discussing high-level parts of the assignment is allowed
    - Please read the [Computer Science Department statement on academic integrity](#) for more information.
  - It is your responsibility to make sure that your assignments have been submitted successfully. You can do this by simply attempting to download your work after it has been uploaded to the system – if you are able to do so, your assignment was submitted successfully.
- **Regrading:** If you believe that one or more questions in your assignment/project were incorrectly graded or the total was calculated incorrectly, then you can email me and request a regrade within **THREE DAYS** after you receive your result back (all requests after three days will be ignored).
- **Late submissions and Grace Period:**
  - Every student has 7 grace days for the entire semester. These grace days cover all late submissions regardless of personal, professional, or technical related delays (e.g. a job interview, computer hardware failure, etc.). The course graders will keep track of these on your behalf and will apply them to your work as necessary. [Please note: if you experience a hardship such as a death in the family, a hospitalization or other life issue that prevents you from coming to class or completing your work, please let me know so that we can together to help you through.]
  - Late submissions after using all grace days will be penalized by 10% off per day late, and assignments that are more than 7 days late can not be turned in for credit.

## Exams/Quizzes Policy

- **Rescheduling an Exam/Quiz:** If you plan to take the exam/quiz on different time/date from the scheduled time/date for any reason, you must email me **at least 72 hours** before the exam time/date with clear documentations/proofs that show/explain the reason for the requested rescheduling.
- **Missing an Exam/Quiz:** If you miss an exam/quiz for any reason, you must email me with official documentations/proofs that show/explain the reason for missing the exam within **2 days** of the missed exam or immediately after you return to school.
- **Regrading:** If you believe that one or more questions in your exam were incorrectly graded or that the exam score was calculated incorrectly, then you can email me and request a regrade within **THREE DAYS** after you receive your exam back (all requests after three days will be ignored).
- **Travel:** NO ACCOMMODATIONS will be made for exams/quizzes for reasons of convenient travel, **EVEN IF YOU HAVE ALREADY PURCHASED TICKETS**. Please note carefully the date of your exams and final and plan your travel schedule accordingly.
- **Late submission:** No late submissions will be accepted for missed quizzes and "Grace" days do NOT apply to quizzes/exams.
- **Makeup exams/quizzes:** There will be NO makeup exams/quizzes if you don't have a valid reason with clear official documentation/proofs for missing the exam/quiz.

## Important Notes:

- Students must monitor the course discussion forum postings (Brightspace --> Discussions)
- Emails about questions already answered in the discussion forum will be ignored.

## Useful Links:

- [Tutoring and Learning.](#)
- [NYU IT Service.](#)
- [Web Meetings \(Zoom\).](#)
- [Student Training - NYU Brightspace.](#)
- [Computer Science Department.](#)