

Course Syllabus

Computer Programming and Graphics Problems

Code: CS 104

Semester: Spring 2025

Time:

Section 002-11755: TF 4:00 PM -5:20 PM MALLPC39

Mode: Face-to-Face

Location: Newark

Instructor: Dr. Huong Le

Webpage: <https://web.njit.edu/~hyl4/>

Office: See below

General Class Protocol

Communication: You will likely get a reply within 24 hours.

- ❖ Study-related, topic-related, and class-related questions: All questions of this type should be posted under the 'Discussions' section within Canvas so that other classmates can participate and share knowledge.
- ❖ Personal matters (grades/concerns/others): huong.le@njit.edu (*Put Your Course ID and section number in the subject line + a brief summary of the email E.g. CS104-002-Spring2025 - Car breakdown. Study-related, topic-related, and class-related will **NOT** be answered via email or Canvas message*).

Office Hours:

- ❖ By appointment ([Remotely](#) - Click to reserve).
- ❖ On-demand. If these times do not work for you, send me a Google meeting invitation along with the meeting link when you want to meet with me, and I will try to attend at your preferred time.

Course Management

We will use Canvas to have informal and friendly conversations about topics related to the course, including assignments, problems, ideas, etc. You are encouraged to participate. Please be absolutely assured that any question or idea is welcome.

Course Learning Outcome:

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Fundamentals of computer science are introduced, with an emphasis on

1. **Programming methodology** and
2. **Problem-solving.**

Topics include

1. Basic concepts of computer systems
2. Software engineering
3. Algorithm design
4. Programming languages
5. Data abstraction, with applications.

Programming Language

The high-level language Javascript is fully discussed and serves as the vehicle to illustrate many of the concepts.

Markup Language

HyperText Markup Language (HTML), the standard markup language for creating web pages. It provides the structure and content of a website, defining elements like headings, paragraphs, images, links, and more.

Stylesheet Language

Cascading Style Sheets (CSS) a stylesheet language used to describe the presentation of a document written in a markup language like HTML

Prerequisites: None

Textbook: (\$599 FREE as NJIT students' benefit)

- ❖ [HTML, CSS, Javascript AIO for Dummies](#)
- ❖ [Javascript from Beginner to Professional](#)
- ❖ [Learn Three.js](#)

Hardware:

A computer with a Windows 10 64-bit (or later) operating system is needed for advanced debugging/theme customization/code optimization. Students are responsible for searching/researching for equivalent environment setups using other types of operating systems.

Tentative Schedule of Topics & Hands-on

- ❖ CS Introduction & Basics
 - Data Type
 - Variables/Assignments

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- Code Block/Structure Programming
- Loops
- Arrays/Vectors
- User-Defined Functions
- Objects and Classes
- ❖ Programming Solutions for various graphics problems

Additional materials will be posted on Canvas.

Coursework and Evaluation(Tentative)

- ❖ **Class Attendance [10%].** Show up and submit work even wrongly.
- ❖ **Class Participation [10%].** Students will work on problems inside the classroom either on their own or as a team at the instructor's discretion. Instruction will be provided.
- ❖ **Three Midterms [30%].** Only written note is allowed. Detailed coverage will be provided. Drop 1.
- ❖ **One Project [20%].** TBD

Self-study all lecture content, reading assignments, and problems. Check the Assignments and Quizzes on Canvas to keep up to date with deadlines.

Letter Grades. The conversion of raw grades will be based on grouping the raw grades into clusters and then assigning a letter grade to each cluster. The letter grade assignment will be in accordance with the graduate grade legend (<https://www.njit.edu/registrar/policies/grading.php>).

Exams: All exams will be in person and given as Canvas quizzes with Lockdown Browser and webcam. During the exam, you are allowed to use your own written notes. But you should avoid using a second display.

Lateness Policy. Please be advised that **no late work will be accepted unless** you have the approval of the Dean of Students (DOS) regarding special circumstances.

Made-up Testing. No made-up test is allowed unless you have the approval of the Dean of Students (DOS) or the Department Chair regarding special circumstances. Two missed exams will result in the final grade of an 'F'.

FYI: The NJIT [academic calendar](#) for the latest semester.

Course Policies

Bring Your Own Device.

Students are expected to bring with them a reasonably capable computer to be used for pop quizzes and other in-class exercises. The laptop needs to have a working webcam.

Email

Use of your NJIT email is strongly encouraged.

Mobile Devices

Let's try and be reasonable and respectful of other students.

Grade Corrections

Check the grades in coursework and report errors promptly. Please try and resolve any issue within one week of the grade notification.

Absenteeism

If you miss a class, it's up to you to make up for the lost time. Missing both midterm and final exams leads to an automatic F in the course. Missing over 70% of class attendance also leads to an automatic F in the course. If you miss either the midterm or final exam, you must contact the DOS within 2 working days from the day the reason for the absence is lifted with all necessary documentation. If DOS approves, your missing exam grade will be set equal to the average of the non-missing exam grades.

Incomplete

A grade of I (incomplete) is given in rare cases where work cannot be completed during the semester due to documented long-term illness or unexpected absence for other serious reasons. A student needs to be in good standing (i.e. passing the course before the absence) and receives a provisional I if there is no time to make up for the documented lost time; a letter (or email) with a timeline of what is needed to be done will be sent to the student. Note that for most cases an I would be resolved within few days, not months, and not the following semester! Not showing up in the final will probably get you an F rather than an I.

Collaboration and External Resources for Assignments

Some homework problems will be challenging. You are advised to first try and solve all the problems on your own. For problems that persist you are welcome to talk to the course assistant or the instructor. You are also allowed to collaborate with your classmates and search for solutions online. But you should use such solutions only if you understand them completely (admitting that you don't understand something is way better than copying things you don't understand). Also, make sure to give the appropriate credit and citation.

Academic Integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues/dilutes the degree to which you are working. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at:

<http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>

[\(Links to an external site.\)](#)

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing, or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu

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