

Fall 2020

## CS 115-015: Introduction to Computer Science I in C++

Jertishta Qerimaj

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# CS 115 - Introduction to Computer Science I in C++ Course Syllabus, Fall 2020

**Instructor:** Jertishta Qerimaj

Email: [jq55@njit.edu](mailto:jq55@njit.edu)

**Lecture Location** – CTR BALL A

**Sections** – 009, 011, 013, 015

**Lecture Hours** – T 9:00 a.m. – 10:20 a.m.

**Office Hours:** T 10:30 a.m. -11:10 a.m.

W 1:30 p.m. – 3:30 p.m. (**GITC 4301**)

## **TA Assignments for Lab:**

Section 009 F 9:00-10:20 Hessamaldin Mohammadi [hm385@njit.edu](mailto:hm385@njit.edu)

Section 011 R 9:00-10:20 Hessamaldin Mohammadi

Section 013 W 12:30-1:50 Cheng Zhong [cz352@njit.edu](mailto:cz352@njit.edu)

Section 015 R 7:30-8:50 Cheng Zhong

## **Mode of Instructional Delivery:**

Tuesday Lectures – Converged – course meeting partially face-to-face and partially synchronous online via Webex. Attendance will be required. The back2classroom (<https://back2classroom.njit.edu/>) application will allow students to indicate whether they plan to attend in-person, request a spot on an in-person waitlist, and take in-person attendance.

Labs – Synchronous Online - course taking place online during day and time noted using Webex

All exams will be delivered online. Respondus LockDown Browser and Respondus Monitor will be used to ensure the integrity of the online exams. Students are required to have a working webcam and microphone to take an exam. For more information, watch a brief introductory video that explains how LockDown Browser works from the student perspective: <https://web.respondus.com/lockdownbrowser-student-video/>.

## **Overview**

Fundamentals of computer science are introduced, with emphasis on programming methodology and problem solving. Topics include basic concepts of computer systems, software engineering, algorithm design, programming languages and data abstraction, with applications. The high level language C++ is fully discussed and serves as the vehicle to illustrate many of the concepts.

## **Textbook**

Problem solving with C++, 10th edition.

Walter Savitch, University of California, San Diego.

## Course Policies

Attendance is mandatory. A student who misses more than 5 classes will be dropped, without credit.

## Course Communication

Canvas ([canvas.njit.edu](https://canvas.njit.edu)) will be used to post lecture notes, to submit homework and for course discussion. You may also email instructors and classroom assistants.

## Homework & Lab

All assignments must be submitted via Canvas on the due date. All submitted work (including exams) must include your name and student ID.

Weekly announcements on Canvas will include details for each assignment.

Plagiarism will result in zero credit for the assignment and/or an XF grade in the course.

Cell phones must be turned off during class.

Students will be informed of any modifications of the syllabus during the semester.

## Material covered

- Introduction to C++
- Flow of Control – Conditionals
- Flow of Control - Loops
- Function Basics
- Parameters and Overloading
- Strings
- Arrays
- Structures and Classes
- Constructors
- Operator Overloading and Friend Functions
- Recursion
- Inheritance and Polymorphism
- Input/ Output Streams and Files
- Exception Handling

## Evaluation

The evaluation will be based on the following course requirements:

- Homework/Lab      35%
- Midterm Exam      25%
- Final Exam      30%
- Misc.      10%

## Exam Policies

***All exams will be conducted on-line.***

You must bring a photo ID to all exams. Students with special needs are advised to make arrangements with Disability Services.

There are no makeup exams. If you miss a midterm because of a documented special circumstance you may receive an imputed grade based on the other midterm.

If you believe that you deserve more credit than you have been awarded on a particular exam problem, you may request, within 48 hours of the exam being returned, that it be regraded. Your entire exam will be regraded, which may result in points being added or subtracted.

Exams do not require any portable electronic devices, such as cell phones or calculators, and all such devices must be put away and turned off during the exam.

## University Code on 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 the degree that you are working on. 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>.***

*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](mailto:dos@njit.edu)”*

## Tentative Weekly Coverage of Material

The following table shows approximately how much time may be devoted to each topic and the corresponding reading from the suggested textbook.

Week #	Subject	Read
1	C++ Basics	Ch. 1,2
2	Flow of control (Conditionals)	Ch. 3
3	Flow of control (Loops)	Ch. 3
4	Functions	Ch. 4, 5
5	Parameters and Overloading	Ch. 5
6	Strings	Ch. 8
7	<b>Midterm Exam</b>	Ch. 1-5,8
8	Arrays	Ch. 7
9	I/ O streams and Intro to Object and Classes	Ch. 6
9	Classes	Ch. 10
10	Constructors and Operator overloading	Ch. 11
11	Recursion	Ch. 14
12	Inheritance and Polymorphism	Ch. 15
13	Streams and File I/O, Exception Handling	Ch. 6,12
14	<b>Final Exam Review</b>	