

BRONX COMMUNITY COLLEGE
of the City University of New York
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

SYLLABUS: CSI 32 Introduction to Computer Programming II. 3 credits/4 hours.

PREREQUISITE: CSI 31; and CUNY English Proficiency, or ENG 100 or 110, if required

TEXT: *Programming -- Principles and Practice Using C++, Second Edition*, by B. Stroustrup, 2014.
 ISBN: 978-0-321-99278-9

Content: This course is an introduction to the C++ programming language. It covers fundamental C++ language structures, data structures, memory management, object-oriented programming including encapsulation, polymorphism and inheritance, recursion and recursive analysis, software development life cycle, and debugging.

Objectives: By the end of this course the successful student will be able to work in the language C++ to:

- (1) Program with the object-oriented concepts classes, objects, data members, member functions and create classes;
- (2) Use pointers and have a basic understanding of memory management;
- (3) Use array-like structures;
- (3) Access class members and learn the order of constructor and destructor calls;
- (4) Use operator overloading;
- (5) Understand polymorphism, inheritance, use constructors and destructors in inheritance hierarchies;
- (6) Use C++ input and output streams;
- (7) Build C++ programs that create, update and process data files;
- (8) Understand Exception Handling, use try, catch and throw;
- (9) Be familiar with C Legacy topics.

Week	Topic
1	Course Information Chapter 2: Hello, World! Chapter 3: Objects, Types, and Values
2	Chapter 4: Computation Chapter 5: Errors
3	Chapter 6: Writing a Program Chapter 7: Completing a Program
4	Chapter 8: Technicalities: Functions, etc. Chapter 9: Technicalities: Classes, etc.
5	Chapter 10: Input and Output Streams Chapter 11: Customizing Input and Output
6	Midterm Exam
7	Chapter 17: Vector and Free Store Chapter 18: Vector and Arrays
8	Chapter 19: Vector, Templates, and Exceptions Chapter 20: Containers and Iterators
9	Chapter 21: Algorithms and Maps Chapter 22: Ideals and History

10	Chapter 23: Text Manipulation Chapter 24: Numerics
11	Chapter 25: Embedded Systems of Programming Chapter 26: Testing
12	Chapter 27: The C Programming Language
13	Reserved for any unfinished topics
14	Reserved for any unfinished topics
15	Final Exam

Academic Integrity: Academic dishonesty (such as plagiarism and cheating) is prohibited at Bronx Community College and is punishable by penalties, including failing grades, dismissal and expulsion. For additional information and the full policy on Academic Integrity, please consult the BCC College Catalog.

Accommodations/Disabilities Bronx Community College respects and welcomes students of all backgrounds and abilities. In the event you encounter any barrier(s) to full participation in this course due to the impact of a disability, please contact the disAbility Services Office as soon as possible this semester. The disAbility Services specialists will meet with you to discuss the barriers you are experiencing and explain the eligibility process for establishing academic accommodations for this course. You can reach the disAbility Services Office at: disability.services@bcc.cuny.edu, Loew Hall, Room 211, (718) 289-5874.

If you test positive for COVID while taking an in-person/hybrid course:

- Using your BCC email account, please email all your **in-person and/or hybrid** professors of your status.
 - Please include your emplid # and current phone number in your email.
 - Please also email us at healthservices@bcc.cuny.edu.
 - Your professor will work with you to complete class work while you are in quarantine.
- You will be called by a Health Services staffer. It is critical that you connect in a timely matter with this staff member for contact tracing information.
- You will need to submit a negative COVID test to Health Services (healthservices@bcc.cuny.edu) before you are allowed access to the campus.
- Your negative test result must come from your doctor or a medical provider (e.g. CityMD, Urgent Care, etc.). We will **not** accept a negative home test result.

NN 01/23

EA 01/23 for COVID