Programming with C++
Boston University

COURSE DESCRIPTION

Covers the elements of object-oriented programming and the C++ language. Data types, control structures, functions, library functions, classes, inheritance, and multiple inheritance. Use of constructors, destructors, function and operator overloading, reference parameters and default values, friend functions, input and output streams, templates, and exceptions. Laboratory course.

PREREQUISITE

MET CS 201; or instructor's consent

TEXT

Required: C++ How to Program: An Objects-Natural Approach, 11th edition, by Deitel and Deitel, published by PEARSON, 2024, eTextbook (ISBN-13: 978-0-13-810164-0 or Vital Source ISBN 8220134801416) or Paperback (ISBN-13: 978-0-13-809231-3)

GRADING

Programming assignments	35%
Homework assignments	05%
Attendance	05%
Project	10%
Exam	45%

PROGRAM EVALUATION CRITERIA

Program correctness	50%
Documentation	20%
Readability	20%
Etc.	10%

"To write a good program takes intelligence, taste, and patience. You are not going to get it right the first time; experiment!"
Bjarne Stroustrup, The C++ Programming Language, 2nd edition

SCHEDULE (very tentative)

DATE	TOPIC	READING (TEXT CHAPTER)
09/09	Introduction	1, 2, App. B
09/16	Control Statements	3, 4, 5
09/23	Classes, Arrays	9, 6
09/30	Pointers, Strings	7, 8
10/07	Inheritance and Polymorphism	10
10/14	No Class – Indigenous People's Day	
10/15	(**Tuesday**) Preprocessor	App. C
10/21	Operator Overloading, Exceptions	11, 12
10/28	Standard Library Containers and Iterators	13
11/04	Standard Library Algorithms, Ranges and Views	14
11/11	Templates, Concepts and Metaprogramming	15
11/18	Stream I/O and Text Formatting, Namespaces	19, 20
11/25	Modules, Parallel Algorithms and Concurrency	16, 17
12/02	Coroutines	18
12/09	Review	
12/16	Exam	

IMPORTANT NOTES

- Reading the relevant material in the textbook is essential for gaining a thorough understanding of the topics covered in the course.
- Not all of the material in each chapter will be covered during lecture/discussion, but the material should be read in any case.
- Your programs must be done in C++. One point will be deducted from the grade for each week a programming assignment is late after a one-week grace period.
- Be sure to see the school's website: http://www.bu.edu/met/ It contains lots of useful information, important dates, etc.
- **Attendance**: Students are expected to attend all class meetings in person. Please inform the instructor by email if you need to be absent from a class.

ACADEMIC HONESTY

The course is governed by the Academic Conduct Committee policies regarding plagiarism (any attempt to represent the work of another person as one's own). This includes copying (even with modifications) of a program or a segment of code. You can discuss general ideas with other people, but the work you submit must be your own. Collaboration is not permitted.

ELECTRONIC MAIL

To be sure you *can* communicate with the instructor electronically and to add your name to the class distribution list, please send a test message with the subject line *CS231 TEST* to the instructor's email address.

Note: Please use a regular email client and not the messaging service of Blackboard.