

BOSTON UNIVERSITY
Metropolitan College
MET CS 231, Introduction to Object-Oriented Programming with C++
Course Syllabus

Summer Term 2, 2014
John S. Maslanka, Ph.D.
Email: maslanka@bu.edu

Monday and Wednesday Evenings, 6/30 – 8/6, 6:00 – 9:30PM
Charles River Campus, SMG 302
Department phone: (617) 353-2566
Home phone: (781) 784-6232 with voicemail

Course Objective:

To gain an understanding of the Object-Oriented paradigm, and of the "class" syntax of the generalized Object-Oriented programming language C++. Upon completion of this course the student is expected to be able to use the C++ language to design and write Object-Oriented computer programs to solve a selection of quantifiable problems.

Preliminary Expectations:

All students have successfully completed the equivalent of MET CS 201, Introductory Computer Science with C++. Also, you may be professionally engaged in computer programming either currently or recently. All students are advised to have an awareness of the C++ programming language and of object-oriented programming. You will be expected to do your homework exercises on a system which supports an ANSI C++, such as Windows, MacOS or a UNIX or linux-based system. I use MS Visual C++ V10 on my laptop.

Gradables:

Five Homework Problems: 10% each, one Midterm Exam 20% and one Final Exam 30%. The Midterm and the Final will be given on the date specified in the attached course calendar. The problem statements for the assignments will be provided by the Professor. Please note: All rules and regulations of Boston University Metropolitan College regarding academic integrity apply to the conduct of this course.

Textbook:

Professor Maslanka's textbook, **Introduction to Programming in C++**, first edition, published by Kendall-Hunt, ISBN 978-0-7575-6536-6, available in the BU Bookstore textbook division, fourth floor, at Barnes and Noble in Kenmore Square.

Website:

Blackboard Website for the course under learn.bu.edu. This website will be on learn.bu.edu and all students are expected to enroll in it and read its materials regularly. You will need a BU computer id and password to access it.

Optional Reference:

C++ How to Program, 9th edition by Paul and Harvey Deitel, Pearson, 2014, ISBN 978-0-13-337871-9. This is an excellent reference book for your programming library.

Dr. Maslanka is a professional writer of computer language compilers and run-time systems. He worked at the former Digital Equipment Corporation from 1975 to 1984 in the Marlboro, MA facility. He has been most recently employed by Hewlett Packard Company / Compaq Computer Corporation in their Nashua NH facility, from 1991 to 2002 when he took retirement. Also, he has taught part time in the BU MET College Computer Science Department since 1973.

Dates	Topics	Readings
June 30	Course Overview C++ Primary Inputs and Outputs, including Testing Control of Flow Fundamental Data Types	Ch 0-2 Ch 3 Ch 4
July 2	Arrays and Strings new and delete operators and Operator Precedence	Ch 5-6 Ch 7- 8
July 7	Functions, including Overloading and Recursion; C++ File IO; Homework 1 due in email	Ch 9 Ch 10
July 9	C++ class - basic concepts and syntax	Ch 11-12
July 14	C++ class - basic Constructors and Destructors Data Abstraction Homework 2 due in email – C++ class required	Ch 12
July 16	C++ class - Overloading of Methods and Operators Midterm Exam, 90 minutes	Ch 13
July 21	friend functions and friend classes Composition involving multiple objects Exception Handling template classes	Ch 14 Ch 15 Ch 16 Ch 19
July 23	Usage of Dynamic Memory – creating a string class, Operator overloads with access to dynamic memory lists/cursors Homework 3 due in email – C++ class required	Ch 17
July 28	Concept and Usages of Inheritance in C++ Abstract Data Types and Virtual Methods	Ch 18
July 30	Polymorphism/Delegation in C++ Homework 4 due in email – C++ class required	Ch 18
Aug 4	Standard string Library Standard Template Library	Ch 17.6 Ch 20
Aug 6	Final Exam 6:15 - 8:15 PM. Homework 5 due in email – C++ class required All course work must be completed by this evening.	