BOSTON UNIVERSITY
Metropolitan College
MET CS 231, Programming with C++
Course Syllabus

Summer Term 2, 2018
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Tuesday and Thursday Evenings, 7/6 – 8/9, 6:00PM – 9:30PM
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Course Objective:
To gain an understanding the fundamental usages of the C++ language, the usage of the Object-Oriented paradigm, and of the "class" syntax of the generalized Object-Oriented programming contained in the C++ language. 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. Or, you may be professionally engaged in computer programming either currently or recently. Students are expected to do their homework exercises on a system which supports an ANSI C++ with a related Interactive Development Environment (IDE), i.e. Windows, MacOS or a UNIX or linux-based system. I use MS Visual C++ 2015 on my laptop.

Gradables:
Five Homework Problems for 10% each, one Midterm Exam 25% and one Final Exam 25%. The Midterm will be Take-home. The Final will be given in class 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. Please take time to review the Student Academic Conduct Code which can be found at the following URL:

http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html.

Textbook:
C++ How to Program, 10th edition by Deitel and Deitel, Pearson, 2017,
ISBN-13: 978-0134448237 (ISBN-10: 0134448235). This is an excellent reference book for your programming library.

Website:
The Blackboard Website for the course is under the Boston University website learn.bu.edu. All students are expected to enroll in the website for the course and to read the materials regularly which I shall place there. You will need a BU computer id and password to access it.

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 their 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, I have taught part time in the BU MET College Computer Science Department since 1973.

BU MET CS 231　　　　　**Course Calendar**　　　　　**Summer Term 2, 2018**

Dates	Topics	Readings
July 3	Course Overview Usage of fundamental Data Types – bool, int, double, char C++ Primary Inputs and Outputs, including Testing Usage of MSVS Interactive Development Environment (IDE) **Homework 1 available**	Ch 1 - 2
July 5	Control of Flow and Operator Precedence C++ File IO -- Text File inputs and outputs **Homework 1 due in email; Homework 2 available**	Ch 4 - 5 Ch 14 - 15
July 10	Preprocessor Functions including Overloading and Recursion; Arrays and Strings	App E Ch 6.16 - 6.22 Ch 7 - 7.5
July 12	Use of referencing (&) and dereferencing data types (*) **new** and **delete** operators Usage of Dynamic Memory (Heap) **Homework 2 due in email; Homework 3 available**	Ch 8, Ch 10.9
July 17	C++ **class** - basic concepts and syntax Creation and usage of derived data types Constructors and Destructors **Homework 3 due in email**	Ch 3 - 3.5 Ch 9 - 9.6
July 19	C++ **class** - Usage of C++ objects Data Abstraction – usage of .h and .cpp files **Take-Home Midterm Exam available**	Ch 3.6 - 3.8
July 24	C++ **class** - Overloading of Methods and Operators **Take-Home Midterm Exam due in email**	Ch 10 -10.7
July 26	template functions and classes Exception Handling **Homework 4 available**	Ch 6.18-.19,Ch11 Ch 7-7.5, 7.10, Ch 17
July 31	friend functions and friend classes Standard string Library, Standard Template Library (STL) **Homework 4 due in email – C++ class required**	Ch 9.12, 10.2 Ch 15, Ch 21
Aug 2	Concept and Usage of Inheritance in C++ Abstract Data Types and Virtual Methods **Homework 5 available**	Ch 12 – 12.5
Aug 7	Polymorphism/Delegation in C++ Review for Final Exam **Homework 5 due in email – C++ class required**	Ch 12.6-12.7
Aug 9	**Final Exam 6:15 - 8:15 PM.** All course work must be completed by this evening. My course grades must be submitted to the Registrar within 48 hours of the termination of the Final Exam.	