SU DEPARTMENT OF COMPUTER SCIENCE SYLLABUS *(Tentative)*
COSC 120 *Computer Science I*

Description: A course for students interested in computer programming, which involves solving problems by designing, implementing, and testing algorithms. Implementation will be done in the high-level language C++. Emphasis throughout the course is on problem solving and learning to develop computer programs that are readable, well-documented, efficient, and correct.
(Three hours lecture and two hours lab per week.)

Required Text: "Starting Out with C++," by Tony Gaddis; Pearson/Addison Wesley, 9th Edition
ISBN: 978034498379.

Prerequisite: COSC 117 with a "C" or better or equivalent programming experience.

	Weeks
Introduction to Computer Software and Hardware	1.0
History of C++, Computer Structure, Concept of High-Level vs. Lower-level Languages, C++ Programming Environments, and C++ Program Structures	
Data Types, Expression, Statements, and Input/output	2.0
Identifiers, Primitive Data Types, Expressions, Control Structures, Loops, File and Stream Input/Output, Variable Declarations, Constant Variables, Static Variables and Local/Global Variables, Variable Scope	
Function and Parameter Passing Method	2.5
Defining and Calling Functions, Function Prototypes, Function Return Types, Parameter Passing Methods in C++, Function Prototypes with Default Arguments, and Function Overloading	
Arrays and Structured Data Types	4.0
One-Dimensional and Two-Dimensional Arrays, Accessing Arrays with Index Values, Passing arrays as Parameters, Elementary Sorting and Searching with Arrays, User Defined Structured Data Types, and Accessing Members of Structured Data Type	
Advanced Topics	3.5
Pointers, Passing Pointers as Parameters, Introduction to Classes, Types of Class Members, Constructors and Destructors in Classes, Accessing Class Members, and Dynamic Memory allocation using Pointers	
Optional Topics	
Introduction to operator overloading, and introduction to recursion	
Testing	1.0

	14.0

EVALUATION
Programs (Design and & Implementation): 40 - 60%
Tests, Quizzes, & Final Exam: 40 - 60%

NOTE: ONCE A STUDENT HAS RECEIVED CREDIT, INCLUDING TRANSFER CREDIT, FOR A COURSE, CREDIT MAY NOT BE RECEIVED FOR ANY COURSE WITH MATERIAL THAT IS EQUIVALENT TO IT OR IS A PREREQUISITE FOR IT.

MJB/jlm 3/2017