COURSE SYLLABUS

Course Title:	Advanced C++ Programming	**Date submitted:**	September 2018 AAC: 18-53
Department:	Business and Technology		
Curriculum:	Computer Information system		

Course Descriptors:
Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

Course Code: (eg. ACC 101)	CSC*214	
Course Type:	X	
A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture M: Seminar N: Internship P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/ Clinical/Lab Z: Combined Lecture/Studio		
Elective Type:	G/LAS	
E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science		
Credit Hours:	3	
Developmental: (yes/no)	No	
Contact Hours: Lecture:	1.5	
Clinical:	0	
Lab:	1.5	
Studio	0	
Other:	0	
TOTAL:	3	
Class Maximum:	24	
Semesters Offered:	F/Sp	

Prerequisites:

C- or better in Object-Oriented Programming Using C++ (CSC*213)

Corequisites:

None

Other Requirements:

None

Catalog Course Description:	Introduction to object-oriented programming in C++, focusing on advanced programming and data structures. C++ syntax and style are taught in the context of using object-oriented methods to achieve reusability, adaptability and reliability. Importance is placed on the features of C++ that support abstract data types, inheritance, and polymorphism. Students will learn to apply the process of data abstraction and class design. Also covered are aggregate data types, advanced pointer usage, linked lists, stacks, and queues.

Topical Outline: List course content in outline format.	1. Advanced Classes and Object Oriented programming 2. C-strings and string class 3. Advanced File and I/O Operations 4. Recursion 5. Polymorphism and Virtual Functions 6. Exceptions , Templates, and Standard Template Library 7. Linked Lists 8. Stacks and Queues 9. Binary Trees
Outcomes: Describe measurable skills or knowledge	**Upon successful completion of this course, the student will be able to do the following: COURSE:**

that students should be able to demonstrate as evidence that they have mastered the course content.	1. write multi-threaded programs 2. write event-driven programs
	Computer Information Systems Associate Degree **PROGRAMMING** 1. solve computer-related problems 2. apply the use of the Program Development Life Cycle 3. practical knowledge of a high-level programming language such as Java, C++ or Visual Basic **PROGRAM: CIS: Programming Option** 3. apply object oriented programming techniques in a variety of programming languages 6. apply programming skills and constructs to develop large-scale programs and applications
	GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)* 2. Critical Analysis/ Logical Thinking - Students will be able to organize, interpret, and evaluate evidence and ideas within and across disciplines; draw reasoned inferences and defensible conclusions; and solve problems and make decisions based on analytical processes. Demonstrates: Identifies the issue(s); formulates an argument; explains and analyzes relationships clearly; draws reasonable inferences and conclusions that are logical and defensible; provides support by evaluating credible sources of evidence necessary to justify conclusions. Does Not Demonstrate: Identifies few or no issues; formulates an argument without significant focus; provides an unclear explanation of analysis and relationships; drawing few reasonable inferences and conclusions that are illogical and indefensible; provides little to no support using credible sources of evidence necessary to justify conclusions.
Evaluation: List how the above outcomes will be assessed	**Assessment will be based on the following criteria:** 1. At least three examinations will be given. 2. At least six programming projects will be given. 3. One or more of these projects will be uploaded to ePortfolio.
Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.	**Required:** 1. Room will require Media Control System (Computer and multimedia projector) **2.** Software: Microsoft Visual Studio **3.** Computer Lab
Textbook(s)	Textbook: Refer to current academic year printout