Course Prefix and Number: CTEC 213   **Credit Hours:** 3-3-0

Course Title: Advanced C++ Programming

Course Prerequisites: CTEC 113

Textbook(s): None

Course Description: This course continues to build computer programming concepts using the C++ programming language. Topics include arrays, pointer variables, string manipulation, classes, and object oriented programming concepts. Upon completion, students should be able to design, code, debug, test, and document programs using advanced features.

Learning Outcomes:

At the end of this course, the student will:
- A.   write programs that use array;
- B.   write programs that use dynamic memory addressing;
- C.   write programs that manipulate characters and strings; and
- D.   write programs using object oriented methods.

To achieve the learning outcomes, the student will or will be able to:

(The letter designations at the end of each statement refer to the learning outcome(s).)
1.   write code that declares and initializes a one-dimensional array (A);
2.   write a code that manipulates a one-dimensional array (A);
3.   describe the use of pointer variables in programs (B);
4.   write programs that use pointers as arguments to functions (B);
5.   write programs that search and change the values of character data in strings (C);
6.   write programs that perform conversion between strings and numeric data types (C);
7.   describe encapsulation, inheritance, and polymorphism (D);
8.   write programs that create and use classes (D); and
9.   write programs that implement class inheritance structures (D).

Course Requirements:
- To pass the course, student must achieve a course average of 70% or above.
- Students must have access to a computer (not mobile device), Microsoft Office, and the Internet to complete the assignments. Computer, software, and the Internet are available to students on campus during scheduled computer lab times and in the Learning Commons located in the BPCC Library.
- Students are required to use BPCC's LMS and are encouraged to use the BPCC Library to research topics and employment opportunities.

Revised: 4/4/2023

Course Grading Scale:
- A = 90 - 100
- B = 80 - 89
- C = 70 - 79
- D = 60 - 69
- F = 0 – 59

Attendance Policy:
Each student is expected to attend class regularly; excessive unexcused absences constitute grounds for suspension.   Refer to the student handbook for Attendance Policy.

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams and/or clinical fees.

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