CIS 242 – C++ Programming I

Course Description

This course introduces students to the fundamental constructs of the C++ object-oriented programming language. Students will test, document and design business-oriented programs. Topics include data types and objects, encapsulation, polymorphism, and inheritance.

Instructional Materials

Horstmann, Cay S., Budd, Timothy A. (2009). *Big C++* (Chapters 1-9), (2nd ed.). Chichester, U.K.: Wiley.

Course Learning Outcomes

1. Demonstrate the proper use and application of syntax in the C++ programming language.
2. Write programs using basic data types in the C++ programming language.
3. Design, implement, test, and debug simple programs in C++.
4. Program simple and complex instruction sequences that are repeated multiple times.
5. Create programs that use functions and procedures.
6. Discuss the significance and use of variables.
7. Demonstrate the ability to decompose complex programming tasks.
8. Design and implement classes that solve programming problems.
9. Discuss and apply vectors and arrays as solutions to programming problems.
10. Discuss how to declare, initialize and use pointers.
11. Discuss the concepts of inheritance and polymorphism.
12. Discuss the use of streams and accessing files from C++ programs.
13. Use technology and information resources to research issues in C++ Programming.
14. Write clearly and concisely about introductory C++ Programming topics using proper writing mechanics and technical style conventions.