CSC 331 OBJECT-ORIENTED PROGRAMMING METHODS

CREDIT HOURS: 3
PREREQUISITES: CSC 202 and CSC 211 with a grade of C or better.

CATALOG DESCRIPTION

Use of a modern object-oriented programming language for industrial applications emphasizing contemporary development practices. Comprehensive programming assignments.

PURPOSE OF COURSE

To explore the use of a modern programming language in the context of an object-oriented development methodology, to familiarize students with modeling techniques used in object-oriented development, and to provide exposure to iterative software development.

EDUCATIONAL OBJECTIVES

Upon successful completion of the course, students should be able to:

1. Apply the features of a substantial subset of a modern object-oriented programming language, including the use of a library of software components.

2. Implement a variety of applications using a contemporary object-oriented programming language.

3. Use the Unified Modeling Language in application design and programming.

4. Demonstrate a basic understanding of file systems and structures.

5. Work as part of a team.

CONTENT — Hours

Introduction to the Programming Environment 1.5

Review of Object-Oriented Concepts 3
Classes, methods, and objects. Encapsulation, inheritance, and polymorphism.

Features of an Object-Oriented Programming Language 9
Interfaces, abstract classes, exception handling, dynamic binding and static binding, dynamic memory allocation and deallocation.
Location and use of reusable library components.

Use of appropriate modeling techniques in Software Development 3

Computer Aided Software Engineering for Object-Oriented Development 1.5

Providing the User Interface 6
File Systems and Structures 9

Device considerations.
Organizations.
Access methods.
File Control.

Object-Oriented Programming (OOP) for Industrial Applications 9
Application of OO concepts and a modern OO programming language to solve problems and implement solutions.

Exams (Plus Final).....3

TOTAL 45

REFERENCES

Deitel, P., and Deitel, H., C++ How To Program, 9th. Ed., Prentice Hall, 2014.

Gaddis, T., et al, Starting Out with C++ - Early Objects, Addison-Wesley, 2006.

Zak, D, An Introduction to Programming with C++, 8th Ed, Cengage Learning, 2016