Common Course Outline
CSIT 111
Logic and OO Design
3 Credits

Community College of Baltimore County

Description

CSIT111 – 3 credits - Logic and OO Design introduces logical methods and object-oriented (OO) design concepts used in the development of software applications and the organization of data. Students develop solutions to real-world problems by creating algorithms using various software development techniques including functional decomposition, flow charting, pseudocode, and object-oriented development concepts.

3 Credits:

Prerequisites: ACLT 052 and MATH 082

Overall Course Objectives

Upon completion of this course students will be able to:

1. define the software development life cycle;
2. identify the various data organization formats;
3. compare the various data organization techniques;
4. distinguish between data structures and processing commands;
5. apply the sequence, selection and repetition structures to program design;
6. apply the basic structures of software engineering to software application development;
7. break down (decompose) a simple problem into functions;
8. apply data flow techniques, simple object-oriented techniques, and object-based techniques to a simple problem domain;
9. identify the strengths and weaknesses of the various development methods;
10. analyze how global business impacts software development; and
11. use and document academic resources to investigate topics such as ethics, security, privacy, and intellectual property, and discuss the implications of these topics in the role of software development.

Major Topics

I. Overview of computers and logic
   A. Introduction to programs
   B. Flowcharting and pseudocode
II. Comparison of programming languages
III. Number systems/ASCII (American Standard Code for Information Interchange)
IV. Program structure
V. Modules, hierarchy charts, and documentation
VI. Writing a complete program
VII. Making decisions
VIII. Looping
IX. Arrays/lists
X. Validating input
XI. Modularization techniques
XII. Object-oriented programming concepts
XIII. Programming graphical user interfaces
XIV. Software development life cycle
XV. Ethics and Intellectual Property
XVI. Globalization and Collaboration
   A. Outsourcing
   B. Teamwork

Course Requirements

Grading: Grading procedures will be determined by the faculty member but will include the following:

1. Minimum of 5 logic projects plus the GREAT project.*
2. Midterm exam.
3. Final exam.

*These projects will include collaborative work, written portions and oral presentations.

Other Course Information

This course is taught in a computerized environment and is required in the Information Technology degree.

This course is an approved General Education course in the Information Technology category. Please refer to the current CCBC Catalog for General Education course criteria and outcomes.