Software Development Using C# 2023-2024 Catal

[ARCHIVED CATALOG]

SDEV 240 - Software Development Using C#

PREREQUISITES: Demonstrated readiness in STEM MATH - Route 1 AND AND (SDEV 140 - Introduction to Software Development OR CSCI 101 - Computer Science I)
PROGRAM: Software Development
CREDIT HOURS MIN: 3
LECTURE HOURS MIN: 2
LAB HOURS MIN: 2
DATE OF LAST REVISION: Fall, 2020

Provides an understanding of fundamental and advanced concepts of the C# programming language. The emphasis will be on creating industry standard programs using current programming design software. Students will learn basic programming concepts such as sequence, iteration and decision structures; variables and constants; and functions and advanced concepts such as searches, sorts, collections, dictionaries, arrays, and linked lists. Classes, inheritance, polymorphism, connecting to databases, and multiform projects will also be utilized. Students will apply these skills in a hands-on environment. Students will practice skills such as team building, work ethic, communications, documentation, and adaptability.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Construct proper C# programming statements correctly using variables, constants, character strings, arithmetic operators, expressions and statements.
2. Use control structures and methods in programs.
3. Design and implement user defined methods for satisfying stated programming objectives.
4. Apply the use of variable pointers and array processing.
5. Create and access data files using sequential and random access operation techniques.
6. Demonstrate how to create and utilize user defined data structures.
7. Demonstrate and use multi-dimensional arrays, array lists, queues, stacks and other collection classes.
8. Design programs utilizing class and object definitions.
9. Utilize various I/O functions for performing random access file operations.
10. Setup and use the concepts of inheritance and polymorphism in an object oriented program.
11. Demonstrate the use of exception handling.
12. Design, code, edit, compile, test, and debug C# language programs.

COURSE CONTENT: Topical areas of study include -

- Variables and constants
- Relational and logical operators
- Arithmetic operators
- Arrays and array processing
- Expressions and statements
- Exceptions
- Data types
- Event processing
- Program flow control
- Conditional expressions

- Multi-dimensional arrays
- Abstract classes and interfaces
- Array lists, queues and stacks
- Text and binary file processing
- Event handling using controls
- Exception handling
- Inheritance

Course Addendum - Syllabus (Click to expand)
