



Software Development using C++

2023-2024 Catalog

[ARCHIVED CATALOG]

SDEV 230 - Software Development using C++

PREREQUISITES: Demonstrated readiness in STEM MATH - Route 1 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

Covers topics in C++ programming language with emphasis on classes, advanced debugging techniques, pointers, dynamic memory allocation, and data allocation. Students will apply skills in a laboratory environment. Students will be introduced to object-oriented design and programming concepts using C++ language features. Differences between C and C++ programming will be discussed.

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

1. Design programs utilizing class and data abstraction.
2. Understand and use the basic programming constructs of C++.
3. Describe the various classifications of I/O streams.
4. Manipulate various C++ data types, such as arrays, strings, and pointers.
5. Describe and utilize C++ searching and sorting techniques.
6. Isolate and fix common errors in C++ programs.
7. Demonstrate an understanding and proper use of exception handling and recursive functions.
8. Use memory appropriately, including proper allocation/deallocation procedures.
9. Apply object-oriented approaches to software problems in C++.
10. Demonstrate an understanding of linked lists, stacks, and queues.
11. Design programs showing an understanding of inheritance and composition.
12. Design, code, edit, compile, test, and debug advanced level C++ language programs.

COURSE CONTENT: Topical areas of study include -

- Classes and Data Abstraction
- Recursion
- Inheritance and Composition
- I/O Streams
- Pointers and Virtual Functions
- Searching and Sorting
- Overloading and Templates
- Linked Lists
- Exception Handling
- Stacks and Queues

[Course Addendum - Syllabus \(Click to expand\)](#)

