



<b>Division:</b>	Business	<b>Area:</b>	Computer Information Systems
<b>Course Number:</b>	CIS 150	<b>Course Name:</b>	Computer Science I
<b>Prerequisite:</b>	CIS 132	<b>Corequisite:</b>	None
<b>Hours Required:</b>	<b>Class:</b> 45	<b>Lab:</b>	<b>Credits:</b> 3

## Course Description/Purpose

This course focuses on the design stage of computer program development and coding of programs using the C++ programming language. Students will diagram solutions to a variety of computer problems using ANSI standard flowcharting symbols, structure charts and other design methods. Utilizing microcomputers, these solutions will then be coded, executed and debugged.

## Major Units

- Flowchart Symbols
- Data Types
- Input/Output
- Assignment Statement
- Selection Structure
- Repetition Structure
- Functions
- Hierarchy Charts
- The String Class
- Arrays
- Pointers
- Structures
- Introduction to Classes
- Data Files
- I/O File Streams

## Educational/Course Outcomes

Student learning will be assessed by a variety of methods, including, but not limited to, quizzes and tests, journals, essays, papers, projects, laboratory/clinical exercises and examinations, presentations, simulations, portfolios, homework assignments, and instructor observations.

**Cognitive** Each student will be expected to *Identify/Recognize...*

- the basic components of a computer
- why programmers draw flowcharts
- the flowchart symbols
- structured programming structures
- the C++ program development environment
- fundamental data types
- the types of errors that occur during processing
- the precedence of arithmetic operators
- counter and sentinel-controlled repetition
- modular program development
- mechanisms for passing information between functions
- the array data structure
- the relationship between pointers, arrays and strings
- structure declarations
- object-oriented programming
- classes
- constructors and destructors
- file stream methods
- sequential access
- random access
- definitions from a list of glossary terms relating to C++

**Performance** Each student will be expected to *Demonstrate/Practice...*

- drawing flowcharts using standard flowchart symbols
- writing programs in C++
- using input and output statements
- using assignment statements
- using decision statements
- using repetition statements
- drawing hierarchy charts
- using functions in the C standard library
- writing functions in C++
- generating random numbers
- declaring and manipulating arrays
- declaring a structure
- populating a structure
- constructing classes
- writing object-oriented programs
- accessing data files