

## Master Syllabus

### CIS 1202 - C++ Software Development

**Division:** Business and Public Services

**Department:** Computer Information Systems

**Credit Hour Total:** 3.0

**Lecture Hrs:** 3.0

**Prerequisite(s):** CIS 1111

**Date Revised:** December 2015

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### Course Description:

A continuation of C++ software development building on prior software development studies. Topics include arrays, searching and sorting, pointers, characters and strings, structures, file operations, C++ classes, inheritance, polymorphism, virtual functions, exceptions, templates, the Standard Template Library (STL), problem analysis and C++ software solution design, coding and testing.

### General Education Outcomes:

- Critical Thinking/Problem Solving Competency

### Course Outcomes:

#### C++ Classes

Create C++ classes using inheritance, polymorphism and virtual functions.

**Assessment Method:** Locally developed exams  
**Performance Criteria:**

70% or higher on a standard rubric

**Assessment Method:** Simulations  
**Performance Criteria:**

70% or higher on a standard rubric

#### Abstract Data Structures

Develop abstract data structures

**Assessment Method:** Locally developed exams  
**Performance Criteria:**

70% or higher on a standard rubric

**Assessment Method:** Simulations  
**Performance Criteria:**

70% or higher on a standard rubric

#### Pointers and references

Use pass by value, pass by pointer and pass by reference when passing data to functions.

**Assessment Method:** Locally developed exams  
**Performance Criteria:**

70% or higher on a standard rubric

**Assessment Method:** Simulations  
**Performance Criteria:**

70% or higher on a standard rubric

#### Problem Analysis and C++ Software Solution Design, Coding and Testing

Analyze problem assignments and design, code and test C++ software solutions.

**Assessment Method:** Locally developed exams  
**Performance Criteria:**

70% or higher on a standard rubric

**Assessment Method:** Simulations  
**Performance Criteria:**

70% or higher on a standard rubric

### Outline:

Introduction to C++ software development building on prior software development studies including the following topics:

- Arrays searching and sorting

- ▣ Pointers and references
- ▣ Characters, strings and string classes
- ▣ Structured Data and Abstract Data Structures
- ▣ Advanced File Operations
- ▣ C++ Classes
- ▣ C++ software solution design, coding and testing
- ▣ Problem Analysis
- ▣ Inheritance, polymorphism and virtual functions
- ▣ Exception templates and the Standard Template Library (STL)