



CIS 2520

Division: Career and Technical Education

Department: Computer Information Systems

Course: CIS 2520

Title: Programming Language - C++

Catalog Description:

This course is an introduction to the "C++" programming language. It includes "C++" building blocks, loops, decisions, functions, arrays, strings, pointers, classes, and basic file handling.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 1

Clock/Hour Requirements: 60

Offered for Non-Credit: No

Prerequisites: CIS 1050

Corequisites: None

Justification:

The "C++" programming language rapidly is becoming the language of choice in the software industry, especially in the areas of designing new computer languages, operating systems, word processors, Windows applications, etc. The experience gained in this course will increase the chances of employment with almost any modern software company. This course is recommended by the program advisory committee.

This course prepares students for job readiness at graduation and/or transfer to a four-year college.

Student Learning Outcomes:

After completing this course, students will understand:

- structure of "C++" programs
- "C++" language syntax
- pointers and other "C++" structures
- the flexibility and power of "C++"

After completing the course, students will be able to perform the following:

- design well structured "C++" programs
- write working "C++" programs using the most common operators, expressions, classes, and

statements

- successfully debug "C++" programs.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- short history of "C++"
- introduction to "C++" program structure
- "C++" data types, constants, and relational and logical operators
- character strings and formatted input/output
- creating and using functions
- using arrays and pointers
- basic file handling
- loops (iterations) and simple and multiway decisions
- use of classes and inheritance
- memory display (color, text, and graphics) using direct access to video memory
- displaying pixels and dot graphics
- built-in graphic functions usable in the "C++" language
- sequential and random file access
- index building and use
- larger programs having multiple source modules
- interfacing with PC Assembler language
- debugging tools.

Lab work will consist of designing, programming, and debugging a series of advanced "C++" programs which demonstrate mastery of the ability to apply concepts and language elements explained in the lectures.

General Education Outcomes:

4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media.

Students will research technical issues through the internet, industry journals, and reference manuals.

5) Apply a cultural and historical awareness to a variety of phenomena.

Students will be aware of the changing nature of the computer field and how it impacts use of dated software with newer and older hardware. An awareness of the history and development of computers is a must for professional preparation.

Key Performance Indicators:

Student grades will be based on a combination of lab exercises (5-25%), quizzes (5-25%), tests (10-50%), and a

final exam or project (20-50%).

Representative Text and/or Supplies:

- Deittel & Deittel, *C++ How To Program*, current edition, Prentice Hall, Upper Saddle River, NJ 07458.
- Supplementary materials: Students will be provided with a floppy diskette.

Optimum Class Size: 12

Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

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I hereby find this course consistent with the goals and resources of the Computer Information Systems Department:

Michael P. Medley, MBA, Assistant Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)