SEMINOLE STATE COLLEGE
OF FLORIDA

C++ Programming Syllabus
COP 2224, Summer 2019, June 24 - July 26

Course & Faculty Information

Lecturer: TBA
E-mail: TBA
Time: Monday through Friday
Teaching hour: 45 (1.8 contact hours each day)
Office hours: 2 hours（According to the teaching schedule）
Credits: 3

Course Description

This course provides an introduction to object-oriented programming and the C++ programming language. Students will create, document, run and debug programs using computer facilities on campus. Key topics include variables, classes, objects, selection, iteration, strings, arrays, pointers and functions.

 Prerequisite: COP 2800 with a grade of "C" or higher or the permission of the instructor
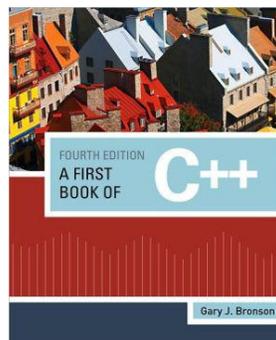
Textbook Information

First Book Of C++

Author:Bronson

ISBN:9781111531003

Publisher: Cengage Learning

Edition:4th, 2012

Measurable Course Objectives

Measurable Course Objectives are outcomes, students are expected to achieve by the end of the course.

- Use the basic to intermediate concepts of object oriented programming to create C++ programs.
- Design, build, execute, and debug C++ programs.
- Build modular solutions to business problems.
- Use variables, arrays, strings in C++ programs.
- Use flow control statements in C++ programs.
- Use calculations in C++ programs.
- Use iterations in C++ programs.
- Use pointers to process arrays, pass arguments, and improve program efficiency.

Hardware/Software Listing

Make sure you have a working development environment on your PC. You can download Microsoft development tools, including Visual Studio, Access, and Visio. Visual Studio can be used in a variety of programming classes such as C++, VB, and C#. Visual Studio Community 2015 can be downloaded for free from Microsoft's website and used for this course. I will be using Visual Studio Community 2015 or DevC++ (see below) to grade your assignments.

Read this information to learn how to create C++ command line applications using Visual Studio for your C++ classes.

Another option to write, compile, and execute your C++ code is the Dev-C++ compiler. Dev-C++ is freeware.

Late Assignments and Make-up Exams

It is important to complete the coding projects, quizzes, and/or exams in a timely manner. Projects, quizzes, and exams are due by midnight (EDT/EST) on the date indicated in the class calendar. The calendar will be given to you on the first day of the class.

Projects, quizzes, and exams are available for a minimum of one week and cannot be completed late. A student will not be able to make up a missed quiz, exam or missed project for any reason except severe illness with the instructor's permission.

Evaluation Methods

This class is programming intensive. 60% of the grade will be based upon the programming assignments. The other 40% is based on the quizzes.

Category	Pct
Class Attendance and Participation	10%
Projects	60%
Quizzes/exams	30%
Total	100%

Grading Scale:

A = 90-100%

B = 80-89%

C = 70-79%

D = 60-69%

F = Below 60%

- **Grade of "A"**
  90%-100%
  "A" level work demonstrates excellence overall with no major weaknesses. This includes an "A" grade on tests and labs. A level work displays excellent presentation and clarification of key concepts of the unit. All written work is outstanding and presented in excellent form.
- **Grade of "B"**
  80%-89%
  "B" level work demonstrates more strengths than weaknesses. This includes "A" and "B" grades on tests and labs. All written and oral work is on the whole clear, precise and well presented.
- **Grade of "C"**
  70%-79%
  "C" level work demonstrates slightly more than a minimal level of skill and comprehension of material covered in the class. "C" level work demonstrated by a "C" grade on tests and average presentation of formal written material. "C" level work shows some assignments are reasonably well done but others are poorly done or mediocre at best.
- **Grade of "D"**
  60%-69%
  "D" level work demonstrates a minimal level of skill and comprehension of material covered in class. "D" level work is demonstrated by a "C" grade or lower on tests and below average presentation of formal written material.
- **Grade of "F"**
  Below 60%
  "F" level work demonstrates that the student has failed to comprehend the material and to

the required work of the course. "F" level work is demonstrated by a grade of "F" on tests and below average presentation of formal written material.

Attendance Policy

Students are expected to attend all classes, actively participate and complete all assigned course work for the course.

Course Outline:

Week 1:
- Introduction to object oriented paradigm (OOP) – Elements of OOP, object-oriented learning curve, software reuse,
- Function and Class Names
- The **cout** object
- Data Types, Declarations, and Displays
  - o Data Types
  - o Arithmetic Operations
  - o Variables and Declarations
- Complete assignments
- Quiz

Week 2:
- Assignment and Interactive Input
  - o Assignment operators
  - o Mathematical library functions
  - o Symbolic constants
- Relational Expressions
  - o The **if-else** statement
  - o **switch case** statement
  - o **Nested if** statements
- The iterative loops
  - o The **while** Statement
  - o Interactive **while** loops
  - o The **for** Statement
  - o The **do-while** Statement
- Complete assignments
- Quiz

Week 3:
- Modularity using functions
  - o Function and parameter declarations
  - o Returning a single/multiple values
  - o Variable scope

- Arrays
  - One-dimensional arrays
  - Initialization
  - Arrays as arguments
  - Two-dimensional arrays
- Complete assignments
- Quiz

Week 4:
- Arrays & Pointers
  - Introduction to pointers
  - Array name as pointers
  - Pointer arithmetic
  - Passes addresses
- Introduction to Classes
  - Object-based programming
  - Constructors
  - Class scope and Duration categories
- Complete assignments
- Quiz

Week 5:
- Adding functionality to classes
  - Creating class operators
  - Method sharing **this** pointer
- Inheritance
- Polymorphism
- Dynamic object creation and deletion
- The Standard Template Library
- Complete assignments
- Quiz

The syllabus and course schedule are subject to change at the discretion of the professor to meet the students' need.

Academic Integrity

As members of the Seminole State College of Florida community, students are expected to be honest in all of their academic coursework and activities.

Academic dishonesty, such as cheating of any kind on examinations, course assignments or projects, plagiarism, misrepresentation and the unauthorized possession of examinations or other course-related materials, is prohibited.   5

Plagiarism is unacceptable to the college community. Academic work that is submitted by students is assumed to be the result of their own thought, research or self-expression. When students borrow ideas, wording or organization from another source, they are expected to acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another's work without identifying the source and trying to pass-off such work as the student's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized.

Students who share their work for the purpose of cheating on class assignments or tests are subject to the same penalties as the student who commits the act of cheating.

When cheating or plagiarism has occurred, instructors may take academic action that ranges from denial of credit for the assignment or a grade of "F" on a specific assignment, examination or project, to the assignment of a grade of "F" for the course. Students may also be subject to further sanctions imposed by the judicial officer, such as disciplinary probation, suspension or dismissal from the College.

SEMINOLE STATE COLLEGE
OF FLORIDA

Selected Topics in Computer Programming Syllabus
COP 2931, Summer 2019, June 24 - July 26

Course & Faculty Information

Course : COP 2931 Selected Topics in Computer Programming- C++ Programming- COP 2224

Lecturer：TBA

Email: TBA

Time: Monday through Friday

Contact Hours: 15 (50minutes each)

Office Hours: 2 hours

Credit: 1

Course Description

This course is scheduled for individual student who wishes to explore topics supplementary to the curriculum in COP 2224 C++ Programming.
Pre-reqs: To be taken in conjunction with COP 2224 C++ Programming.

Measurable Course Objectives
Measurable Course Objectives are outcomes students are expected to achieve by the end of the course.

- Revisit and reinforce C++ basics including variables, expressions, selections, loops, arrays, pointers and functions
- Use structured programming concepts and techniques in developing C++ applications
- Understand object-oriented concepts of abstraction, inheritance and polymorphism
- Apply basic to intermediate object-oriented programming concepts in solving business problems

Textbook Information
There are no textbooks required for this course.

Attendance Policy
Students are expected to attend all classes, actively participate and complete all assigned course work for the course.

Grading Scale:
A = 90-100%

B = 80-89%
C = 70-79%
D = 60-69%
F = Below 60%

Course Content

The course runs when COP2224 is offered and is a supplement to COP2224. It covers C++ basics including selections, iterations, functions, arrays and pointers and the object-oriented programming concepts such as inheritance and polymorphism as well as the use of the Standard Template Library. The course focuses on reinforcing the topics covered in COP 2224 by developing an application.

Course Schedule

Week 1
- Introduction to the course and project
- C++ basics: data types, variables, expressions, and I/O
- Assignment and reading online C++ tutorials on the topics covered

Week 2
- C++ basics: Math functions, selections and loops
- Assignment and reading online C++ tutorials on the topics covered

Week 3
- Arrays and pointers
- Use of structured programming techniques to solve business problems
- Assignment and reading online C++ tutorials on the topics covered

Week 4
- Classes and objects
- Object-oriented programming concepts and design
- Project

Week 5
- Final project and presentation
- Evaluations and Summary

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