

Syllabus

CPT 180 C++

I. General Information

Title: Introduction to C++

Term: Spring 2016

Instructor Name: Paul Scarrone

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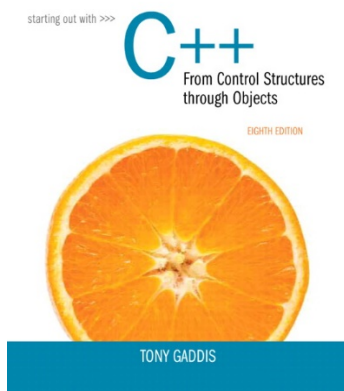
Catalog Description:

This course introduces the student to programming using the C and C++ languages. Basic programming techniques, data types, flow of execution, functions and data structures are topics that are covered. Adherence to the ANSI Standards of C and C++ are emphasized. Prerequisite: CPT160

Upon completing this course, the student will possess the skills of:

- Demonstrate a basic understanding of computer concepts, including software and hardware.
- Solve computing problems using a top-down approach in a well-structured design using procedural programming techniques
- Design, implement, test, and debug a C++ program to solve a given problem
- Demonstrate knowledge and use of control structures used in procedural programming, including sequence, selection, iteration, and functions.
- Make use of data types and structures in C++ including integer and floating point types, arrays (one-dimensional, two-dimensional, strings)
- Explore Cross-platform development with CMake
- Experience the power of C++ through building graphical systems with SDL2

II. Required Text



STARTING OUT W/C++: FROM CONTROL STRUCTURES THROUGH OBJECTS

Edition: 8TH

by Tony Gaddis

III. Required Equipment/Supplies

Access to Course Management System -- Blackboard is provided by WCCC, Computer(Windows, Linux, OSX), access to the Internet, an email account, Github account, and JetBrains student subscription.

Software should be installed prior to the first class with instructions provided in the Pre-Week 1 Assignment

IV. Reference Materials/Resources

- Various computer books are available in the Learning Resource Center. The LRC also provides access to print, non-print, and electronic information resources. WCCC Online Electronic Resources: <http://my.wccc.edu> login and click the Library tab
- Student Class Files, grades, email available at: my.wccc.edu – Login, click Blackboard, click on course name

V. Procedures

A. Evaluation and Grading Scheme

Grading:

Final course grade is weighted and based on total points accumulated over the semester with a breakdown as follows:

A comprehensive assignment will be assigned for each chapter covered

Some material will be available only from in class lectures

Two(2) Exams and a Final will be used to evaluate your skills acquired from class

Final grades will be based on the cumulative total points of exams & assignments. The letter grade will be determined by the following scale:

90-100% - A; 80-89% - B; 70-79% - C; 60-69% - D; and below 60% - F

C. Assignments

Assignments are an integral part of this course and the student is expected to complete them in a timely and accurate fashion. Failure to complete assignments, having assignments partially completed or not completed properly will result in point deductions from the student's overall grade. **Assignments not received or submitted beyond the deadline will receive a grade of zero.**

D. Exams

Exams will be a combination of Multiple Choice questions and Writing Code. These exams will be timed and students will complete them in class or in a testing center close to them. Students desiring to use a local testing center will be responsible for scheduling their own exam and contacting me to supply the exam to the testing center. **Students will receive a grade of zero for exams not taken by deadline.**

F. Class Participation

Students are expected to participate in class and ask questions to help gain an understanding of course materials. **If you have a question it is almost guaranteed someone else is curious about the same thing.**

G. Attendance

Coming to class is vital to your academic success in this course. Poor attendance will lead to a poor or failing grade in this course. Much of the material required for tests and assignments will come from lecture and be supported by the book. Missing class will not allow you to prepare for homework and exams.

H. Withdrawal Policy:

Students withdrawing before midterm will receive a "W" grade. Students withdrawing after mid-term will receive a grade of "W" only if passing at the time of the request. There may be a financial issue associated with your withdrawal and you are encouraged to meet with a counselor prior to completing the required withdrawal forms.

A college initiated withdrawal will be initiated for any student failing to login into this course in Blackboard and/or participate in classroom activities for a period of three consecutive weeks.

I. Plagiarism and Cheating

Plagiarism, cheating, and other forms of academic dishonesty will not be tolerated. Any student who is found to be an active participant, on either end, in any incident, will receive a grade of zero for that assignment. Repeat incidents earn an F for the course.

J. Conduct

- Students enrolling at the college assume obligations to conduct themselves in a manner compatible with the college's function as an educational institution. Your attention is drawn to the WCCC Catalog and Student Handbook, in particular the sections concerning the Code of Student Conduct, Disruptive Student Behavior, and Academic Dishonesty.
- My email address is scarronep@wccc.edu Please enter the course number in the subject line of your emails (CPT 150-and section number). You must also include your full name in the body of the email.

VI. Students with Disabilities:

If you need an accommodation due to a disability under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act, please contact Disabilities Services in Room 130 Founders Hall, 724-925-4121; or Lauren Eicher, Counselor of Disabilities & Student Behavioral Intervention Services, at eicherla@wccc.edu. Advance notice may be necessary for some accommodations to be provided in a timely manner. Accommodations must be supported by adequate documentation and are determined on an individual basis.

Tentative Schedule

| Chapter(s) | Topics & Assignments | Week |
|------------|--|---------|
| 1, 2 | Introduction to Computers and Programming Download and installing software Introduction to C++ | Week 1 |
| 3 | Expressions and Interactivity | Week 2 |
| 4, 7 | Making Decisions Arrays | Week 3 |
| 5, 9 | Loops and Files Pointers | Week 4 |
| --- | EXAM I | Week 5 |
| 9, 6 | Pointers Functions | Week 6 |
| 10, 8 | Characters, C-Strings, and More About the string Class Searching and Sorting Arrays | Week 7 |
| 11 | Structured Data | Week 8 |
| --- | EXAM II | Week 9 |
| 19 | Recursion | Week 10 |
| --- | More Algorithms | Week 11 |
| 12 | Advanced File Operations | Week 12 |

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| 13 | Introduction to Classes | Week 13 |
| 17 | Linked Lists | Week 14 |
| --- | Final Review | Week 15 |
| --- | Final | Week 16 |