



Programming I

Introduction to Programming with C++

Course Description - COP 3014: (Prerequisite: MAC 1140 or MAC2311 or MAC2233)

You must have completed the prerequisites otherwise you will be dropped from the class. Fundamental concepts and skills of programming in a high-level language. Flow of control: sequence, selection, iteration, subprograms. Data structures: arrays, strings, structs, ADT lists and tables. Algorithms using selection and iteration (decision making, finding maxima and minima, basic searching and sorting, simulation, etc.). Good program design using a procedural paradigm, structure and style are emphasized. Interactive and file IO. Testing and debugging techniques. Intended primarily for science, engineering majors, or anyone who is required to take COP 3330. This course satisfies the FSU computer skills competency requirement.

Instructor:

Faculty: Dr. David A. Gaitros

Phone: (850) 644-5832

Office: Love 105D

Email: dgaitros@fsu.edu

Office Hours: Monday and Wednesday 1:00 P.M. – 3:00 P.M.

Web Site: <http://www.cs.fsu.edu/~gaitrosd>

Attendance: Attendance is required at all lectures and recitations sections. Attendance will be taken during recitation meetings and recorded. The material in the course along with examples is covered extensively in the lectures and practice using the programming environment and assistants on assignments are given during recitation sessions. Failure to attend classes may result in poor performance in the class.

First Day Attendance: In accordance with FSU Policy any student who is not present for the first day of class must be dropped. In a class of this size taking a physical attendance is not possible. The First Day attendance will be done via a Survey on the Blackboard site. On the first day of class, all enrolled students must answer the one question survey to stay enrolled in the class.

Course Objectives:

This course is intended for majors in computer science or related areas and focuses on the fundamental concepts of computer programming using the C++ language. This course may be used as a programming pre-requisite for COP 3330. Successful completion of this course satisfies the computer competency requirement for the mathematics major. Upon successful completion of the course, the student should be able to:

- o Demonstrate a basic understanding of computer concepts, including software and hardware.
- o Solve computing problems using a top-down approach in a well-structured design using procedural programming techniques
- o Design, implement, test, and debug a C++ program to solve a given problem
- o Demonstrate knowledge and use of control structures used in procedural programming, including sequence, selection, iteration, and functions.
- o Make use of data types and structures in C++ including integer and floating point types, arrays (one-dimensional, two-dimensional, strings) and structs; arrays of structs and structs containing arrays. Have a introductory-level understanding of the C++ class and be able to utilize the standard IO and string classes and their member functions.
- o Utilize fundamental algorithms studied to perform common tasks, such as finding the max and min of a data set, counting, summing, tracking a previous value, searching and sorting, reading until EOF, etc.
- o Consider, compare, and evaluate code segments or simple algorithms for relative efficiency in a basic fashion
- o Make use of pointers: understanding their relationship with arrays, their use in function parameters and returns, and their importance in dynamic memory allocation.
- o Introduction in compiling in Unix/Linux

Required Text Books:

Starting out with C++, From Control Structures through Objects

- **Publisher:** Pearson; 8 edition
- **Language:** English
- **ISBN-10:** 0-13-376939-9
- **ISBN-13:** 978-0-13-376939-5

Additional Reference Materials you may find useful

The C Programming Language, Brian W. Kernighan, Dennis M. Ritchie, ISBN 0-13-110370-9, 2nd Edition, Pearson Hall Software Series

Course Communication

All course materials are available on the Blackboard Site (<http://campus.fsu.edu>) . There you will find this syllabus, lecture materials, help files, homework assignments, and other materials available to the students. Announcements to students will be posted on the Blackboard site and

emailed to all users including Teaching Assistants. The instructor of this course will use your FSUID (email account) to communicate. Be sure to read your email from this account every day or have it forwarded to an account that you review on a daily basis.

Exam Makeup Policy:

An exam missed without an acceptable excuse will be recorded as a grade of zero (0). The following are the only acceptable excuses:

- If submitted *prior to* the scheduled exam: Evidence from a University official that you will miss the exam due to University sanctioned travel or extracurricular activity
- A note from a physician, University dean, or parent indicating an illness or other extraordinary circumstance that prevented you from taking the exam
- An emergency of unexpected origin

All excuses must be submitted in writing, must be signed by the excusing authority, and must include complete contact information for the authority, including telephone numbers and address.

Missed exams with acceptable excuse will be made up.

Missed, and acceptably excused, final exams will result in the course grade of 'I' and must be made up in the first two weeks of the following semester.

Graded Material:

Assignments:

There are many programming assignments in this class that students will be expected to work on outside of class. Each one is worth 100 points and has a specific grading rubric. Following assignments specifications are very important to doing well on the assignments.

Recitation/Lab Exercises:

During the course of the term students will be required to demonstrate their programming ability during their recitation/lab sessions. On weeks where there are no tests scheduled or other activities students will be required to write a small program or segment of a program with the assistance of the Graduate Teaching Assistant and with the use of any text books, notes, or on-line sources, etc.

Exams:

There will be two term tests and a final exam. You will be required to bring and show your Student ID on test days to take the tests. The Final exam will be cumulative. The test format will be a mixture of multiple choice, short-answer, code reading, code writing, and code comprehension.

Grading Policy:

The Final Course Grade will be computed as follows:

Graded Material	Percentage
Homework/Programs	40.0%
**Test1	17.5%
**Test2	17.5%
**Final Exam	25%

** Students must achieve at least a “C-“or higher average on the tests in order to receive at least a “C-“ in the class.

Grades

Your overall grade will percentages associated with the assignments, tests, programs, in class exercises. Points will be rounded to two decimal places.

Grade	% Lower Bound	% Upper Bound
A	94.00%	100.00%
A-	90.00%	93.99%
B+	87.00%	89.99%
B	84.00%	86.99%
B-	80.00%	83.99%
C+	77.00%	79.99%
C	74.00%	76.99%
C-	70.00%	73.99%
D	60.00%	69.99%
F	0.00%	59.99%

Late Assignment Policy:

- An assignment will be penalized 10% of the total grade (10 points) for every 24 hours after the due date/time. The policy covers weekends and holidays.
- However, all assignments must be turned in to obtain full credit for the course. Because we have to prepare grades no assignments will be accepted for any reason past the last Monday of the last week of class.
- Students wishing to be exempt from late assignments points must show why they did not have a reasonable amount of time to complete the assignment. Students will not have an unlimited amount of time to submit late assignments but only the amount of time covered by the excuse. Since assignments are made available to the students on the 1st day of class a crisis at the last moment will not excuse a late submission.
- The Monday (midnight) of the last week of class is the last day to turn in any assignment to fulfill the requirements of the class even for late credit.

Grade of 'T' Policy:

The grade of 'T' is given to a student who, for circumstances beyond their control, missed the opportunity to cover course materials. Under the conditions stated by the University, the grade of 'T' means that a student is allowed the next semester of their enrollment to make up all remaining course materials. It does not allow a student the opportunity to hand in additional work or improve their grade on previous assignments. The grade of 'T' will be assigned only under the following exceptional circumstances:

- The final exam is missed with an accepted excuse for the absence. In this case, the final exam must be made up during the first two weeks of the following semester.
- Due to an extended illness or other extraordinary circumstance, with appropriate documentation, the student is unable to participate in class for an extended period. In this case, arrangements must be made to make up the missed portion of the course prior to the end of the next semester.

Programming Assignments

This can be a challenging course. A common problem with programming classes is the amount of time involved with completing the assignments. In general, even a small assignment can be quite time consuming to complete under some circumstances. Here are some tips to make sure that you do well in this class:

- Start analyzing the requirements for the assignment immediately after completing the previous assignment.
- Develop a strategy for completing the work.
- Ask questions early in class about the assignment.
- **SHOW UP TO CLASS, THIS IS PERHAPS THE MOST IMPORTANT RECOMMENDATION. CLUES ON HOW TO COMPLETE EACH ASSIGNMENT ARE DISCUSSED.**
- Spend a portion of each day on the assignment.
- Design the whole program BUT do not write it. Write a portion of the program and test individual portions. This way if there is a problem with the program it will be in the last segment that you wrote.
- Plan to finish the program at least 48 hours prior to the due date, this will allow for any last moment crisis that may occur.

Assignment Submissions:

- Assignments are accessed from the course web site linked from <http://campus.fsu.edu>
- All assignments are submitted electronically through the assignment portal on the blackboard site.
- Assignment scores are posted in the online grade book within 14 days of the due date (for assignments submitted on time). Refer to the Weekly Agenda for the scheduled dates when scores for on-time submissions should be posted. Click on a score to read detailed comments. Concerns and complaints regarding assignment grading must be presented within one week of when the assignment grade is posted to the instructor of the course. The instructor does not have an unlimited amount of resources to continually re-grade assignments.
- Students are responsible for confirming that their own assignment file is submitted successfully, with the submitted file in working order. Refer to the Instructions for

Submitting and Storing Assignment Files, found under the Assignments menu on your course web site.

- Blackboard will allow multiple submissions per assignment. This limit has been set to 5 and the last file submitted will be graded. Please check them to make sure they are not corrupted.
- Submitted assignment files found to be corrupt and/or cannot be opened will require re-submission with late penalties
- Assignments will NOT be accepted if submitted on disk, digital drop box, safe assignment, on CD/DVD, hard copy printout, or as an email attachment.
- Each programming assignment will have its own grading criteria based upon the assignment specifications and rubric. This will include programming style and practices. However, all programs must compile correctly in order to be graded. Programs that do not compile will receive a Zero (0).

FSU Computer Competency

In order to fulfill FSU's Compute Competency Requirement, the student must earn at a "C-" or better in the course.

Academic Honor Policy

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "... be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://dof.fsu.edu/honorpolicy.htm>.)

Cheating

All assignments must be original work. We consider it cheating when a student starts an assignment from some other student's assignment file, or copies portion of another student's file. The procedures that will be followed are located at: <http://fda.fsu.edu/Academics/Academic-Honor-Policy/>

- Cheating Penalties :
 - o First Offense: The incident will be reported to the Dean of Students and will be checked to ensure the student has no other offenses. All students involved will be given the option of accepting a zero for the assignment with a reduction of a half letter grade in the class or having the case submitted to the Academic Honor court for review.
 - o Second Offense: The case will be submitted to the Academic Honor court for review.

Americans with Disabilities Act

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Student Disability Resource Center; and
- (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
sdrcc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>

Syllabus Changes

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.