

Syllabus
COSC-051-x - Computer Science I – Summer 2019

Instructor: Jeremy Bolton, Ph.D.
Asst Teaching Professor
Department of Computer Science

Office: remote

Email: jeremy.bolton@georgetown.edu

Office Hours: Hours will be entered on Course calendar
(or by appointment)

TAs: TBD (see Course calendar for office hours)

Course Description: This class is intended for computer science majors and minors. Other students with a serious interest in learning C++ programming may also take this class. Topics covered include: basic data types, the C++ string class, variables and constants, and their declaration, input/output (cin/cout) operators, assignment operators, arithmetic operators, control structures for selection, control structures for repetition, basic file operations, user-defined functions, value and reference parameters, scope rules, name precedence, function overloading, template functions, elementary software engineering principles, Standard Template Library (STL), the vector class, elementary searching and sorting, abstract data types, stacks, user-defined classes, operator overloading, pointers, self-referential classes, dynamic object creation and destruction, linked lists, and recursion.

This course prepares computer science majors and minors for subsequent course requirements. It also satisfies the college science requirement. COSC 051 is a **very** demanding course and is a significant investment in time. Expect to spend 15+ hours each week, **or more**, studying the C++ language and writing programs.

Prerequisites: Working knowledge of computers. Although there are no formal prerequisites, you do need to know how to use computers: create, modify, and delete files; create and remove directories; use the Web; use e-mail; and other like skills. You will also be assigned, and are required to use, an account on the class UNIX server.

Course Objectives:

- Learn the C++ programming language
- Learn to analyze problems
- Learn to break problems into components that can be solved by computer programming
- Use C++ to create computer programs that implement problem solutions

Required e-Text + MyProgrammingLab Access (ISBN: 9780134645568)

[GW] Starting Out With C++, Early Objects, 9th Edition by Tony Gaddis, Judy Walters, and Godfrey Muganda

Optional Reference:

[Pr] C++ Primer Plus, 6th Edition by S. Prata

Grading:

Quizzes: 30%

MyProgrammingLab Assignments: 40%

Final Project: 30%

Grading Scale:

<i>Grade</i>	<i>Range</i>
A	[94 , 100]
A-	[90 , 94)
B+	[87 , 90)
B	[83 , 87)
B-	[80 , 83)
C+	[77 , 80)
C	[73 , 77)
C-	[70 , 73)
D	[60 , 70)
F	[0 , 60)

Submitting Assignments: Assignment Submission will be facilitated using Pearson's MyProgrammingLab. Access to MyProgrammingLab is required. Be sure you select the ISBN noted above so that you can gain access to MyProgrammingLab.

Programming Environment: This class is about the use of computer programming to solve problems. You will do a lot of C++ programming. There are several Integrated Development Environments (IDEs) that you can use to create C++ programs. Installation and use of any such third party application is optional, is

your responsibility, and will not be covered during class. The final project and should compile on the computer science server specified for this class (cs-class.uis.georgetown.edu) OR an IDE of your choice.

Academic Honesty: I am required to report any suspicion of academic dishonesty to the Honor Council.

Quizzes must be entirely your own work. During quizzes, you are not allowed to view any other students work, show any other student your work, or engage in any discussion. Quizzes will be closed book and closed notes unless otherwise specified.

All programming assignments and individual projects must be the result your own effort. You may use outside resources such as research papers and books from the library but any solution techniques taken from outside sources must be properly documented. In the case of computer code submissions, these references should be cited in the program comments. Material from web sites should be cited with a url and adequate information to determine what was used from that site.

You are permitted to have conversations and interactions with other students concerning general programming techniques. This means discussions that one would reasonably expect to occur standing in front of a whiteboard. This **explicitly precludes** the detailed discussion of program code or other assignment products.

- You are **strictly prohibited** from discussing the specific details of your project or homework solution.
- You are **strictly prohibited** from viewing or copying someone else's source code.
- You are **strictly prohibited** from allowing someone else to view or copy your source code.
- You **may not** email or otherwise provide to someone else the files associated with your programming project or other assignment documents.
- You **may not** submit someone else's file or files as your own.
- You **may not** use outside sources and cite them. Use only the text and lecture.
- **NOTE:** At any time, a student may be asked to present, demonstrate, or explain a project submission, without notice. At my sole discretion, a student's project grade can be adjusted based on this presentation, demonstration, and/or explanation. If a student does not sufficiently understand or explain their submission, further action may be taken.

Disability Accommodation: Georgetown does not discriminate or deny access to an otherwise qualified student with a disability, and students with disabilities may be eligible for reasonable accommodations in accordance with the Rehabilitation Act of 1973 and the Americans with Disabilities Amendments Act (ADAA) of 2008. However, students are responsible for communicating their needs to the Academic Resource Center. The University is not responsible for making special

accommodations for students who have not requested an accommodation and adequately documented their disabilities. Also, the University need not modify programmatic, course, or degree requirements considered to be an essential requirement of the program of instruction.

Equal Opportunity and Diversity: Georgetown University provides educational opportunities without regard to, and does not discriminate on the basis of, age, color, disability, family responsibilities, familial status, gender identity or expression, genetic information, marital status, national origin, personal appearance, political affiliation, race, religion, sex, sexual orientation, source of income, veteran's status or any other factor prohibited by law in its educational programs and activities.

Course topics, administrative guidelines, and other specifics discussed in this syllabus are subject to change. Notice of any changes will be provided in class.