

COSC1437 Syllabus

South Plains College - Fall 2017

Time: TR 9:30 – 12:00

Course Title: Programming Fundamentals 2

Course Purpose: This course focuses on the object-oriented programming paradigm and basic analysis of algorithms. Topics include searching and sorting techniques, class definitions, abstract data types, objects, inheritance, analysis of algorithms, stacks, queues, linked lists, and binary trees. Pre-requisite: COSC1436.

Instructor: **Charlotte Young**
125B Math Building Phone: 806-716-2666 (voice mail capable)
email: cyoung@southplainscollege.edu

Office Hours:

Mon	Tues	Weds	Thurs	Fri
9:00-9:30	9:00-9:30 2:15-3:45	9:00-9:30	9:00-9:30 2:15-3:45	9:00-12:00

Textbook: Starting Out with C++: From Control Structures through Objects, 8th Edition, Tony Gaddis. Pearson, 2015. ISBN 978-0-13-376939-5.

Required Supplies: Microsoft Visual C++ Community 2015 is installed on our lab computers. You may install this software on a home computer for no charge. Be sure to register (for free) so it doesn't expire in 30 days. Install download from:
<http://www.microsoft.com/visualstudio/eng/downloads>

You will need a **USB flash drive** to store your projects. You must bring this drive to class every day. It is recommended that you back up your files on this drive to a home computer or other media. You can purchase a USB drive for \$20 or less. You should look for the highest capacity within your budget, aiming for at least 8GB.

We will use Turingscraft CodeLab online software for several lab assignments.
<http://www.turingscraft.com/> Access to this web site should still be available from your purchase last semester.

Attendance Policy: Attendance AND completing assignments are imperative for success in this course. If you are absent, you are still responsible for the assignment for the next class; **you are expected to access Blackboard for current assignments and test dates**. Please read the "Class Attendance" and "Drops and Withdrawals" policies in the current catalog. If you have more than 4 absences, you must ask my permission to be reinstated in the class. If you have excessive absences, you are responsible for initiating your own drop if you expect a W for a grade instead of an F. The last day to drop is November 16, 2017.

Academic Conduct: You may discuss the lab and programming assignments with your classmates, but you must code, debug, and execute the projects on your own. Copying of another student's work or allowing your work to be copied is considered plagiarism and a failing grade for that assignment will be given *to all parties involved*.

Cell phones **MUST** be turned off and put away during class and testing periods.

Assignment Policy: Current assignments and due dates will be published on Blackboard. Students are expected to read the current chapter before coming to class. Short quizzes may be announced or unannounced. No makeup quizzes will be given - an absence equals a zero quiz grade! During the scheduled lab, there will be lab exercises to complete and/or programming problems to start. (Programming problems will be finished on your own time). All assignments will be given a Due Date which will be published on Blackboard.

Lab exercises must be turned in by the due date; no late assignments will be accepted. Programming problems will be accepted up to one week late, but late points will be subtracted after the actual due date. **Lab attendance is required and students are expected to stay for the full lab time.** An individual who does not use allotted class time or lab time to work on the current assignment will waive its due date in favor of 9:00am the next day.

Grading Policy: There will be 3 major exams and a comprehensive final. No student will be exempt from the final. Your lab grade will be calculated from quiz grades, lab assignments, and programming assignments. Your final grade will be computed as follows:

Major Exams (3):	50%
Final Exam	20%
Lab Grade:	30%

If you miss an exam, it is your responsibility to contact me as soon as possible using email or voicemail. If permission is granted for a makeup exam, I will want it to be taken before the next class meeting. Missing an exam is a serious matter and it is up to the student to take the proper action, otherwise a zero will be assigned as the exam grade.

Course Objectives:

- To develop the ability to correctly analyze a variety of problems and generate appropriate algorithmic solutions.
- To introduce pointers and recursion.
- To introduce the concepts of object-oriented programming.
- To introduce data structures and abstract data types.
- To introduce C++ classes, member functions, and class operators.
- To gain further experience with the C++ programming language.

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) & Lubbock Center 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College -1401 College Avenue, Box 5, Levelland, TX 79336, 806-716-2360. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center with other non-course-related concerns. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lcleavinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

Campus Concealed Carry - Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at: http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 911.

COSC1437 Fall 2017 Course Outline

This proposed schedule may change as the semester progresses! Always refer to Blackboard for exact dates.

Week Start date	Topics
1 Aug 28	Review of C++ basic data types, control structures, arrays, structs Chapter 11 Structured Data
2 Sep 4	<i>Mon 9/4 Labor Day Holiday</i> Chapter 9: Pointers Dynamic Memory Allocation
3 Sep 11	Chapter 13 Introduction to Classes member functions, constructors, destructors
4 Sep 18	Chapter 10: the string Class Chapter 14: More About Classes
5 Sep 25	Exam 1 Chapter 14: friends of classes, copy constructors, and operator overloading
6 Oct 2	Chapter 15: Inheritance. Base and derived classes.
7 Oct 9	Chapter 15: polymorphism and virtual functions
8 Oct 16	Chapter 16 Exceptions Chapter 16 Templates and the STL
9 Oct 23	Chapter 19: Recursion
10 Oct 30	Exam 2 Chapter 17 Linked Lists templated class, recursive operations, variations for linked lists
11 Nov 6	Chapter 17: STL list Container Chapter 18 Stacks
12 Nov 13	Chapter 18 Queues STL containers <i>Thurs 11/16 Last Drop Day</i>
13 Nov 20	Exam 3 <i>Thanksgiving Holidays 11/22-11/24</i>
14 Nov 27	Chapter 20 Binary Trees Chapter 20 Binary Search Trees
15 Dec 4	Other structures: Heaps, Graphs
16 Dec 11	Final Exam Tuesday 12/12 10:15 – 12:15