

COSC1436 Syllabus

South Plains College – Fall 2019

Time: Section 001: 1:00-3:30 MW

Course Title: Programming Fundamentals 1

Course Purpose: This course is the first course in procedural programming and software engineering for computer science and engineering majors. The language used is C++. Emphasis is on the fundamentals of structured design, development, testing, implementation, and documentation.

Instructor: Dr. Don Pathirage
125B Math Building Phone: 806-716-2666 (voice mail capable)
email: dpathirage@southplainscollege.edu

Office Hours:

Mon	Tues	Weds	Thurs	Or by appointment
9:00AM-9:30AM 12:15PM-1:00PM 3:00PM-5:00PM	9:00AM-9:30AM 12:00PM-1:00PM	9:00AM-9:30AM 12:15PM-1:00PM 3:00PM-5:00PM	9:00AM-9:30AM 12:00PM-1:00PM	

Required Textbook: Starting Out with C++: From Control Structures through Objects, 9th Edition, Tony Gaddis. 2018. ISBN 978-0-13-449837-9. You must have a paper or digital copy of this book. We will use the same book for COSC1437. You do NOT need to buy the online access card with this book.

Required Supplies: Microsoft Visual C++ Community 2017 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:
<https://visualstudio.microsoft.com/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 around \$10 with at least 32GB storage capacity. You will be able to use this drive for future classes as well. Purchase a USB 3.0 or higher drive for faster read/write speeds, which will be very helpful in this class.

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 14.

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 exams. Calculators are not allowed during exams. Headphones are not allowed during exams. Once you receive an exam, you may not leave the testing area before you submit the exam and you must finish within the allotted time.

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 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 exercises, and programming assignments. Your final grade will be computed as follows:

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

All tests will count towards the final grade; i.e. no exam grades will be "dropped". Only students that miss an exam due to a collage-approved absence are eligible to take the makeup exam. If you miss an exam, it is your responsibility to contact me as soon as possible using email. 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 recorded for that exam.

Course Objectives:

- To develop the ability to correctly analyze a variety of problems and generate appropriate algorithmic solutions.
- To instill the principles of top-down, structured design when using the procedural programming paradigm.
- To understand the basics of computer hardware and the steps of software development.
- To understand how computers represent and store data.
- To produce programs which use conditional execution structures, iteration structures, and functions.
- To produce programs which use appropriate data types: simple variables, structures, arrays, strings, and multidimensional arrays.
- To explore the syntax and usage of the C++ programming language as a means of accomplishing the above objectives.

South Plains College Statements:

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. 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 schedule an appointment with a counselor by calling 716-2529.

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

South Plains College permits the lawful carry of concealed handguns in accordance with Texas state law, and Texas Senate Bill 11. Individuals possessing a valid License to Carry permit, or the formerly issued Concealed Handgun License, may carry a concealed handgun at all campus locations except exclusion zones like the Natatorium. For a complete list of campus carry exclusions zones by event, please visit <http://www.southplainscollege.edu/campuscarry.php>

COSC1436 Fall 2019 Course Outline

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

Week Start date	Topics
1 Aug 26	Chapter 1 Intro to Computers and Programming Chapter 2 Intro to C++
2 Sep 2	<i>Mon 9/2 Labor Day Holiday</i> Chapter 2 Data Types and Arithmetic Operators
3 Sep 9	Chapter 3 Input, Mathematical Expressions, Type Casting, and Assignment Chapter 3 Formatting Output
4 Sep 16	Chapter 3 Library Function Calls Exam 1
5 Sep 23	Chapter 4 Conditions, Logical Expressions Chapter 4 If statements
6 Sep 30	Chapter 4 Nested If statements Chapter 4 Switch statements
7 Oct 7	Chapter 5 Looping Chapter 5 Nested Logic and Looping
8 Oct 14	Chapter 5 finish iteration and file input and output Exam 2
9 Oct 21	Chapter 6 Functions and Parameters
10 Oct 28	Chapter 6 Scope and Lifetime, Value-returning functions, Random number generator
11 Nov 4	Chapter 7 Arrays: One-dimensional arrays Chapter 7 Passing arrays as parameters
12 Nov 11	Exam 3 Chapter 8 Sorting algorithms for arrays <i>Thurs 11/15 Last Drop Day</i>
13 Nov 18	Chapter 8 Searching algorithms for arrays Two-Dimensional arrays, three or more dimensions, vectors
14 Nov 25	Chapter 11 Structured Data
15 Finals	Final Exam Refer to blackboard for an updated final exam date.

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