

COSC1301 Syllabus

South Plains College – Spring 2018

Time: section 001: MW 9:30-10:45 section 002: TR 1:00-2:15

Course Title: Introduction to Computing and Logic

Course Description and Purpose: A disciplined approach to problem solving with structured techniques and representation of algorithms. Prerequisite: MATH1314 (or higher) or two units of high school algebra. This course is a prerequisite to all other computer science and engineering courses. The purpose of this course is to provide the computer background needed by **computer science, mathematics, and engineering** majors. Topics covered include: how a digital computer works, how information is encoded and processed, the binary and hexadecimal number systems, logic gates, simple circuits, and an introduction to algorithms. In addition, programming concepts and constructs will be presented: arithmetic expressions, variables, conditional structures, and loops.

Professor 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

Required Textbook: Computer Science - an Overview, Edition 12, J. Glenn Brookshear and Dennis Brylow. ISBN 973-0-13-376006-4. Pearson, 2015. You do NOT need a new online access code. If you would like to "rent" an ebook: <https://www.vitalsource.com/products/computer-science-glenn-brookshear-v9780133593426>

Required Supplies: You must be able to store your projects so that they are accessible from anywhere. It is recommended that you purchase a USB flash drive to bring to class every day. 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.

Attendance Policy: Attendance, taking notes, 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. 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 April 26, 2018.

Academic Conduct: You may discuss the lab and programming assignments with your classmates, but if the project is not assigned as a group project, you must develop and turn in your own work. Copying 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*. All material you include in your project that is from another source must be cited in your paper.

Cell phones MUST be turned off and put away during class and testing periods. Calculators are not allowed during exams.

Assignment Policy: Current assignments and due dates will be published on Blackboard. Students are to read the assigned reading material before coming to class. Short quizzes may be announced or unannounced. No makeup quizzes will be given - an absence equals a zero quiz grade.

All assignments will be given a Due Date. An individual who does not use allotted class time or lab time to work on the current assignment will waive this due date in favor of 9:00 am the next day. Assignments turned in late will have points deducted and will be accepted **no later** than one week past the due date. There will be a tutor available to provide help with this course. Tutoring times in M125 will be posted on Blackboard and outside the lab.

Grading Policy: 3 major exams and a comprehensive final exam are scheduled. No student will be exempt from the final. Your lab grade will be calculated from: short quiz grades, lab projects, and programming assignments. The final average will be computed as follows:

Exam average:	70%
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 recorded for that exam.

Course Objectives: *In this course the student will...*

- develop a general understanding of computer terminology and computer hardware.
- understand how all types of data are represented and stored in binary form.
- understand what constitutes an algorithm, how to process an algorithm, and how to write an algorithm.
- learn the binary and hexadecimal number systems and how they relate to computers.
- complete projects using application programs appropriate for math, engineering, and computer science students.
- learn fundamental concepts of programming including data types, control structures, and subprograms using Python as the programming language.

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.

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.

COSC1301 Spring 2018 Course Outline

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

Week Start date	Topics
1 Jan 15	Mon 1/15 MLK Holiday Introduction Chapter 0
2 Jan 22	“Computer Science as a career choice” presentation The role of algorithms
3 Jan 29	Representing information as bit patterns Chapter 1 Binary Number System
4 Feb 5	Hexadecimal Number System Two’s complement
5 Feb 12	Digital colors Exam 1
6 Feb 19	Digital audio Floating point representation
7 Feb 26	Boolean operators and Logic gates Simple circuits
8 Mar 5	Machine Language and Program Execution Chapter 2
<i>Spring Break March 12 - 16</i>	
9 Mar 19	Exam 2 Advanced Word: Equation Editor project
10 Mar 26	Algorithms and Pseudocode - Chapter 5 Learning about programming using Python – Chapter 6
11 April 2	Mon 4/2 Easter Holiday Python: Variables, expressions, and statements
12 Apr 9	Python: Conditionals Python: Functions
13 Apr 16	Exam 3 Python: Graphics
14 Apr 23	Python: Iteration <i>Thurs 4/26 Last Drop Day</i>
15 Apr 30	Python: Strings and Lists
16 May 7	Final Exams: 001: Weds 5/9 8:00 -10:15 002: Thurs 5/10 10:15-12:15