COSC1301 Syllabus

South Plains College – Spring 2019

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 13, J. Glenn Brookshear and Dennis Brylow. ISBN 9780134875460. Pearson, 2019. You do NOT need a new online access code. You may purchase the paper book, you may choose to rent a digital copy, you may even use an earlier edition (12) if you are willing to reconcile page numbers and assignment numbers yourself.

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. Purchase a USB 3.0 drive for faster read/write speeds, which will be very helpful in future classes.

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 25, 2019.

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 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 to read the assigned reading material before coming to class. Short quizzes may be announced or unannounced. No makeup short 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.

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

COSC1301 Spring 2019 Course Outline

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

Week Start date	**Topics**
1 Jan 14	Introduction to Computer Science The role of algorithms
2 Jan 21	*MLK Holiday – Mon 1/21* “Computer Science as a career choice" presentation Investigating CS concepts and history group project
3 Jan 28	Abstractions in computer science Representing information as bit patterns
4 Feb 4	Binary Number System Hexadecimal Number System
5 Feb 11	Digital colors **Exam 1**
6 Feb 18	Two’s complement representation Adding signed integers in binary
7 Feb 25	Digital audio Floating point representation
8 Mar 4	Boolean operators and Logic gates
Spring Break : March 11-15	
9 Mar 18	Simple circuits **Exam 2**
10 Mar 25	Advanced Word: Equation Editor project Machine Language
11 Apr 1	Machine Language and Program Execution Algorithms and Pseudocode
12 Apr 8	Learning about programming using Python Python: Variables, expressions, and statements
13 Apr 15	Python conditional structures **Exam 3**
14 Apr 22	*Mon 4/22 Easter Holiday* Python: Control Structures *Thurs 4/25 Last Drop Day*
15 Apr 29	Python: Functions
16 May 6	***Final Exams:*** section 001: Weds 5/8 8:00-10:00 section 002: Thurs 5/9 10:15-12:15