South Plains College
Common Course Syllabus: COSC 2436

Department: Mathematics, Engineering, and Computer Science

Discipline: Computer Science

Course Number: COSC 2436

Course Title: Programming Fundamentals III

Available Formats: Online

Campuses: Levelland

Course Description: This course covers further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), searching, sorting, recursion, and algorithmic analysis. Programs will be implemented in an appropriate object-oriented language. This course is included in the Field of Study Curriculum for Computer Science.

Prerequisite: Successful completion with a grade of 'C' or better in COSC 1437

Credit: 4 **Lecture:** 3 **Lab:** 3

Textbook: *Data Structures Using C, 2nd ed.*, Reema Thareja. Oxford University Press, 2014, ISBN-10: 0-19-809930-4, ISBN-13: 978-0-19-809930-7.

Supplies: Students must have access to a laptop or desktop computer capable of writing programs, watching online lectures, and completing labs. The computer must have a built-in webcam or an external webcam that is compatible with the Honorlock proctoring platform provided through Blackboard.

This course partially satisfies a Core Curriculum Requirement: None

Core Curriculum Objectives addressed:

- **Communications skills**—to include effective written, oral, and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts, resulting in informed conclusions

Student Learning Outcomes: Upon completion of this course and receiving a passing grade, the student will be able to:

- Describe how data structures are used to organize, store, and manage data efficiently in computer programs.
- Compare and analyze common data structures such as arrays, linked lists, stacks, queues, trees, heaps, hash tables, and graphs.
- Explain and apply algorithmic techniques for searching, sorting, and traversing data structures.
- Implement data structures and associated algorithms using appropriate programming constructs and abstraction techniques.
- Demonstrate proper software development practices, including modular design, documentation,

testing, and debugging of data-structure-based programs.
- Apply data structures and algorithmic problem-solving strategies to new problems and real-world applications.

Student Learning Outcomes Assessment: A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

Course Evaluation: There will be departmental final exam questions given by all instructors.

Attendance/Student Engagement Policy: Attendance and engagement are the most critical activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. The student is expected to attend at least eighty percent (80%) of the **total** class meetings **and** submit at least eighty percent (80%) of the **total** class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor may remove the student from the class with an X, upon their discretion, to help the student from harming their GPA. If the student can not receive an X, the instructor will assign an F.

Absence/Missed Assignments Due to Medical Condition:
A doctor's note is required and will be used by SPC to verify your absence with the health facility. If you miss an assignment due to a medical condition, you must contact your instructor as soon as possible and complete the missed work within one week of the return date listed by the doctor. Failure to do so will result in a grade of zero.

Absence/Missed Assignments Due to SPC-Approved Absence:
If you miss an assignment due to an SPC-approved absence, you must provide a letter from SPC or the professor associated with the event. For example, if the absence is for a sporting event and the excuse letter is from a professor, include their contact information for verification.

You must notify your instructor at least 24 hours prior to missing the assignment and complete the missed work no later than one week from the original due date. Failure to meet these requirements will result in a grade of zero for the missed assignment.

Plagiarism violations include, but are not limited to, the following:
1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail-order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:
1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;

9. Taking pictures of a test, test answers, or someone else's paper.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect from the student and the instructor. Neither the instructor nor the student should be subject to others' rude, disruptive, intimidating, aggressive, or demeaning behavior**.** Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here: https://www.southplainscollege.edu/syllabusstatements/.

South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here: https://www.southplainscollege.edu/emergency/covid19-faq.php.

SPC Tutors

Tutoring is FREE for all currently enrolled students. Make an appointment or drop in for help at any SPC location or online! Visit the link below to learn more about how to book an appointment, view the tutoring schedule, get to know the tutors, and view tutoring locations.
http://www.southplainscollege.edu/exploreprograms/artsandsciences/teacheredtutoring.php

Online Tutors

You receive 180 free minutes of Brainfuse tutoring each week, with hours resetting every Monday morning. To access Brainfuse, log in to Blackboard, select Tools from the left-hand menu, and click the Brainfuse link. You will be automatically logged in for free tutoring.
Tutor Availability:

- Monday–Thursday: 8:00 PM – 8:00 AM
- Friday 6:00 PM – Monday 8:00 AM

For questions regarding tutoring, please email tutoring@southplainscollege.edu or call 806-716-224

Instructor Course Information: Spring 2026

Time: Online. Course content is delivered through Blackboard. Students are expected to follow posted deadlines and course schedules in the syllabus.

Course Title: Programming Fundamentals III
Instructor: Don Pathirage, Ph.D.
Location: Online
Email: dpathirage@southplainscollege.edu

Office Hours (F2F **-** Levelland Math Building 125B)**:**

Mon (F2F)	Tues (F2F)	Weds (Online)	Thurs (Online)	Friday (Online)
12:00PM-1:00PM	12:00PM-1:00PM 3:30PM -5:00PM	12:00PM-1:00PM	12:00PM-1:00PM 3:45PM-5:00PM	12:00PM-1:30PM Or by appointment

Dedicated Office Hours for This Course:
Tuesdays, 3:30 PM – 5:00 PM. Students planning to meet during these hours should email in advance to confirm availability. I will be present at 3:30 PM; however, if no student arrives and no prior notice is given, I may not remain for the full time due to other commitments.

Assignment Policy: All exam and lab due dates are listed on the last page of the syllabus. Assignments not submitted by the stated due date will receive a grade of zero. Exams and labs that have already been administered cannot be made up under any circumstances. All assignments have clearly defined due dates, and late submissions will not be accepted.

All lab assignments must be completed using the C programming language. Submissions written in any other language will receive a grade of zero for that lab assignment.

Grading Policy: There will be two major exams and a final exam. No student will be exempt from the final. The final average will be computed as follows:

Two Major Exams:	50%
Final Exam:	25%
Labs:	25%

The numeric grade scale spans from 100 to 0, and the letter grades will translate to: 100-90 = A, 89 – 80 = B, 79 -70 = C, 69 – 60 = D, 59 – 0 = F. All tests will count towards the final grade, i.e., no exam grades will be "dropped". Only students who miss an exam due to a college-approved absence are eligible to take the makeup exam. (Going out of town, family reunions, vacations, etc., are not considered approved absences) If you miss an exam, it is your responsibility to contact the instructor as soon as possible by email. If permission is granted for a makeup exam, it needs to be taken before the next class. Missing an exam is a serious matter, and it is up to the student to take proper action; otherwise, a zero will be recorded for that exam. **Your work schedule or any other schedule must not overlap with the class schedule.**

Email Communication Policy:
When sending emails, students must include the course number in the subject line. For example:
COSC 2436: [Reason for Contact]

COSC2436 Spring 2026 Course Outline

Lab due dates: All lab exercises are due on Tuesdays at 11:59 PM.

Week Start date	Topics
1 Jan 12 - Jan 16	Syllabus & Introduction Chapter 1
2 Jan 19 - Jan 23	Chapter 1 Chapter 2, Chapter 3
3 Jan 26 - Jan 30	Chapter 3. **Lab 1 is due.** Chapter 4
4 Feb 02 - Feb 06	Chapter 5. **Lab 2 is due.** Exam Review Day
5 Feb 09 - Feb 13	**Exam 1 (02/12 at 5 PM) – Over Chapters 2, 3, 4, 5. Lab 3 is due.** Chapter 6
6 Feb 16 - Feb 20	Chapter 6. **Lab 4 is due.** Chapter 6, Chapter 7
7 Feb 23 - Feb 27	Chapter 7. **Lab 5 is due.** Chapter 7
8 Mar 02 - Mar 06	Chapter 8. **Lab 6 is due.** Chapter 8
9 Mar 09 - Mar 13	Chapter 9. **Lab 7 is due.** Chapter 10
10 Mar 16 - Mar 20	**Lab 8 is due.** Spring Break - All campuses are closed
11 Mar 23 - Mar 27	Chapter 10 Chapter 10
12 Mar 30 - Apr 03	Exam Review Day. **Lab 9 is due.** **Exam 2 (04/02 at 5 PM) – Over Chapters 6, 7, 8, 9, 10**
13 Apr 06 - Apr 10	Chapter 12 Chapter 13
14 Apr 13 - Apr 17	Chapter 13. **Lab 10 is due.** Chapter 13
15 Apr 20 - Apr 24	Chapter 14. **Lab 11 is due.** Chapter 14
16 Apr 27 - May 01	Chapter 15. **Lab 12 is due.** Chapter 15
17 May 04 - May 08	**Lab 13 is due.** **Final Exam (May 6 at 5 PM) – Over Chapters 12, 13, 14, 15.**

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