CSC 251-01: C Language Programming and Unix
ITC 251-01: System Programming in C and Unix

Spring 2023

Instructor	Rudy Perez	**Email**	rperez182@csudh.edu
Classroom	SAC 2102	**Class Time**	M/W 2:30pm – 3:45pm
Office	NSM A-141	**Office Hours**	T/Th 1:00pm – 2:30pm
Phone	(310)-243-2450	**URL**	https://www.csudh.edu/csc/

PRE-REQUISITE: CSC 121 with grade "C" or better.

Catalog Course Description:
This course introduces students to programming in the "C" language and its use in systems programming in the UNIX operating system. The course provides a substantial exposure to the C programming language and the Unix programming environment for students with some prior programming experience but minimal exposure to C. The course describes fundamental programming concepts using loops, arrays, records, pointers, and data manipulation. Use of the shell, editing, and dealing with files will be emphasized. Other topics covered include introduction to error handling and debugging, program maintenance, and multiprogramming. The students will be given computer programming projects to cover these areas. The objective of the course is to teach students the basic methods and skills commonly used by C programmers working in the UNIX operating system environment.

Student Learning Outcomes:
At the end of the course and upon completion, students will be able to

- Have a more in-depth understanding of computer hardware and operating systems.
- Be able to program in the C programming language by using basic C features such as selections, loops, arrays, and functions.
- Understand advanced C features in programming such as pointers, structures, preprocessors, dynamic memory allocation, and file systems.
- Know how to use common C and GNU/UNIX development tools such as command line text editors.
- Be comfortable using UNIX based operating systems.
- Learn how to use GNU Complier Collection (gcc) and debugging tools, and how to make UNIX/POSIX system call.

Course Textbook:
C Programming – A Modern Approach (2nd Edition)
Author: K. N. King, Publisher: W. W. Norton & Company (April 19, 2008)
ISBN-10: 0393979504 ISBN-13: 978-0393979503

Required Computer Software/Hardware Capabilities:

- **Computer:** You must have access to a reliable computer for this course. If you are on campus and do not have a laptop, you can check out a laptop from the IT User Services Help Desk via Technology Checkout Program. In addition, the Toro Student Computer Lab offers on campus access to workstations with a wide variety of commonly used software. Visit the CSUDH

Online Courses Technical Requirements page for more information on technology requirements.

- **Zoom:** This course will use Zoom web conferencing software for online meetings/office hours/online lectures. Visit this page for detailed information of using Zoom.
- **Email:** All email communications from this course will go through your Toromail, the CSUDH student email system.
- **Internet:** You must have Internet access to participate in this course. If you are on campus, connect your laptop and mobile device to the internet using the eduroam campus wireless network.
- **Linux Terminal Compiler:** Course work will require you to compile and submit work as a C source file. A Linux subsystem may be installed on Windows and Apple based computers and will be covered in the first week of class.

Computer Literacy Skills Expectations:
It is expected that students will:

- Have regular access to computers and internet access for the term of this course
- Be familiar with using email as a communication tool and check your campus email account at least every other day
- Be able to access online course materials, and open the materials and finish the required problems using applications, such as online tools, Eclipse or other IDEs, PowerPoint reader, Word reader and PDF reader
- Do research on your own to solve problems in and after the lecture classes.

Academic Integrity:
Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. All work turned in by a student for a grade must be the students' own work. Plagiarism and cheating (e.g., stealing or copying the work of others and turning it in as your own) will not be tolerated, and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course.

Academic Honor Code / Plagiarism Expectations:
Programming assignments must be done individually. Failure to do so will result in a violation of the CSUDH Academic Honor Code. The following cases will be considered as violations: identical code, and extremely similar code. Violations will be reported to the Office of Vice President of Academic Affairs.

Course Requirements:

- **Assignments (6 Assignments in total):** Students should turn in the assignment on the due date except for the programming problems.
- **Exams (2 Exams in total):** There will be two Midterm Exams. Any change to the exam dates will be announced in class at least one week before the original exam dates.
- **Final Exam (1 Final Exam in total):** The final exam is cumulative and will be held according to the university final exam schedule. The final exam will be graded and his/her final overall grade will be calculated based on the score distribution mentioned below and the grading scale table shown below.

Grading Policy:
Plus/Minus Grading System

Grading Scale:

Score Range	Grade	Score Range	Grade	Score Range	Grade
>= 94	A	[90,94)	A-	[87, 90)	B+
[84, 87)	B	[80, 84)	B-	[77, 80)	C+
[74, 77)	C	[70, 74)	C-	[67, 70)	D+
[60, 67)	D	Below 60	F		

Weighted Score Distribution:

Assignments:	30% (5% for each)
Exams:	30% (15% for each)
Final Exam:	40%
Total:	100%

Policies:

- **Attendance:** Attendance for every lecture is not required; however, attendance is encouraged and each student is responsible for material covered in class.
- **Assignment Due Dates:** Date and time for when assignments are due will be provided on Blackboard
- **Late Work:** Late Assignments will not be accepted and cannot be made up
- **Missed Exams:** Cannot be made up

Americans with Disabilities Act:
Access to publications, instructional material, computer software, hardware, and electronic information, as well as access to the campus are critical for the educational and career achievement of all persons. CSUDH seeks to enable that access with this directory of information and services. The policy of the CSU is to make its programs, services, and activities accessible to students, faculty, staff, and the public who visit or attend a campus-sponsored event, with disabilities.
CSUDH adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reason- able accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Student Disability Resource Center (SdRC) and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the SdRC. For information call (310) 243-3660 or to use the Telecommunications Device for the Deaf, call (310) 243-2028 or go to: https://www.csudh.edu/sdrc/

Class Meetings:
Lectures will be traditional in-person / on-ground meetings. In-person meetings will be held on campus in the South Academic Complex (SAC) building in room 2102.

Extra Credit:

Extra credit will be made available if deemed appropriate by the instructor.

Behavioral Standards:
Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. The instructor may require a student responsible for disruptive behavior to leave class pending discussion and resolution of the problem and may also report a disruptive student to the Student Affairs Office (WH A-410, 310-243-3784) for disciplinary action.

Tentative Course Outline and Schedule:
The dates in the table are tentative, the actual topics covered on certain dates and the actual assignment/exam dates might be different and will depend on class progress.

Week	Coverage	Assignments/Quizzes/Exams
1	Syllabus and Introductions	
2	Chapter 1 Introducing C	Assignment 1 Due
3	Chapter 2 C Fundamentals	
4	Chapter 3 Formatted Input/Output	Assignment 2 Due
5	Chapter 4 Expressions	
6	Chapter 5 Selection Statements	Exam1
7	Chapter 6 Loops	Assignment 3 Due
8	Chapter 7 Basic Types	
9	Chapter 8 Arrays	Assignment 4 Due
10	Spring Recess	
11	Chapter 9 Functions	Exam 2
12	Chapter 10 Program Organization	
13	Chapter 11 Pointers	Assignment 5 Due
14	Chapter 12 Pointers and Arrays	
15	Chapter 16 Structures	Assignment 6 Due
16-17	Final Review & Finals Week	Final Exam