

CS 344 Course Syllabus

Department of Electrical, Computer, Software and Systems Engineering

Course Title:	C Programming and UNIX
Course Credits:	3
Course Meeting Times and Location:	T Th: 12:45 PM – 2:00 PM in Lehman 373
Semester:	Spring 2019
Instructor:	Dr. David Bethelmy
Office Location:	Lehman 365
Office Phone:	TBA
Email:	bethelmd@erau.edu
Office Hours:	T Th: 11:15 PM – 12:30 PM and by appointment

Course Description:

The course topics include advanced C language **programming**, basic UNIX/Linux shell script **programming**, and general principles of the UNIX/Linux operating system.

The course will focus on C **programming** and the practical use of the UNIX/Linux operating system. The coursework will emphasize “hands-on” application of reading assignments and lecture material through homework **programming** assignments. Each student will also be assigned a course **programming** project to be completed during the latter weeks of the course.

Prerequisites: CS 225 (which has a pre-requisite of CS 223 or EGR 115)

Co-requisites: None.

Textbooks: None required. Instructor will supply materials.

Highly recommended:

C Programming:

The Indispensable Guide to C with Engineering Applications / Edition 1

Paul Davies

9780201624380

Linux Systems Programming:

The Linux Programming Interface

Michael Kerrisk

978-1-59327-220-3

Course Objectives:

The purpose of this course is to cover topics on use of the ANSI C language appropriate for intermediate programmers. In addition, integrated into the coverage of the C language is the use of the Unix/Linux operating system for program development, including appropriate system tools and development of shell scripts. The course will focus on UNIX/Linux systems programming.

Learning Outcomes:

Upon completion of this course a student will be able to:

1. Demonstrate the use of the C programming language to develop (system) applications.
2. Demonstrate the use of Unix/Linux platform for developing C programs, in particular, systems programs.
3. Demonstrate basic administration capabilities for Unix/Linux.
4. Write rudimentary shell scripts which assist with repetitive tasks in program development.

Topics:

The following topics will be addressed:

1. Introduction to Linux
2. Introduction to C
3. Branching and Looping statements
4. Functions and Pointers
5. Input/output
6. Program Design
7. Arrays and Strings

8. Structures
9. Dynamic Memory Management
10. Data Structure Design
11. Specialized Tools
12. Advanced Programming Topics

Grading:

Students will receive grade points on homework assignments, quizzes, examinations and the course project. Each student's final course grade will be determined by a weighted sum of grade points received during the course. The relative importance of each grading element in the final grade will be:

Homework/Quizzes:	15%	TBA
Exam I:	20%	Thursday, February 07, 2019
Exam II:	20%	Thursday, March 07, 2019
Exam III:	20%	Thursday, April 18, 2019
Course project :	25%	TBA (4/27/2019 - 5/1/2019)

If an exam date needs to be changed, the change will be announced in advance. Each homework assignment, each examination and the project will be awarded a maximum grade score of 100%. The course grade will be computed as follows:

$$\begin{aligned} \text{Course Grade Points} = & 0.15 \times \text{average homework/quiz grade} + \\ & 0.20 \times \text{exam I} + \\ & 0.20 \times \text{exam II} + \\ & 0.20 \times \text{exam III} + \\ & 0.25 \times \text{project grade} \end{aligned}$$

Course Policies:

General:

Quizzes can be given at any class meeting, may not be announced in advance and will cover material from the reading assignments, homework, and discussions in previous class meetings. **No makeup quizzes** will be given unless student has documentation for why the quiz was missed.

All homework assignments and quizzes will be counted toward the final grade.

There is no comprehensive final examination for the course. The three examinations each cover most if not all of the course topics. The course project provides the opportunity for students to demonstrate their understanding of all the course material.

The homework may introduce material not presented in reading assignments or lectures.

Lectures will follow general topics in the reading assignments, but may also introduce new material. Lectures will not necessarily cover all aspects of the reading assignments.

Lecture, reading, and homework materials are all sources for examination and quiz questions.

Minimum Requirements to Receive a Passing Grade:

All examinations and the project must be completed to earn a passing grade in the course.

Grading scale: A (89+) B (79 – 88) C (69 – 78) D (50 – 68) F (below 50)

Attendance:

Attendance is expected. If a student does not attend a class, it is the student's responsibility to ensure that he/she determines what occurred during the class, including any of the instructor's announcements concerning assignments and due dates. Also, absence at a class session during which students are graded on participation will result in a zero grade score for that activity.

Missing Homework and Exams:

Students may be excused from homework deadlines or examinations only in the event of a medical or personal emergency sanctioned by the University Office of Judicial Affairs.

Makeup of any examination excused on such a basis must be arranged with the instructor.

Late Submissions:

24 hours late:	10% penalty
72 hours late:	30% penalty
1 week late:	50% penalty
Over 1 week:	100% penalty

In-class Use of Computers and Cell Phones:

The purpose for attending class is to get an education. Learning should be students' priority for the duration that they are in class. Students may not use computers, mobile phones or other electronic devices during class unless such use has been specifically approved by the instructor. All phones should be off or the ringers should be set to vibrate during class. If students need to take a call during class, they must step out before answering the call. **Texting during class is not allowed.**

Academic Integrity:

Embry-Riddle Aeronautical University is committed to intellectual integrity and considers dishonesty a very serious offense. Such offenses include cheating (accepting unauthorized assistance in preparing assignments), fraud (gaining unfair advantage through deceit, trickery, or falsification of records), or plagiarism (taking the ideas, writings, words, and/or work of another and representing them as one's own without appropriate acknowledgement). A student who cheats, commits any academic fraud or plagiarizes in this course will receive an F for the course. In addition, the incident will be reported to the Dean of Students. If any other academic integrity violations have been documented, the student will be recommended for dismissal from the University.