

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
Department of Computing and Mathematics
COURSE OUTLINE FOR

Course No.: CS344
Cr Hrs: 3

Title: C and UNIX

Lecture Hours: 3

Laboratory Hours: 0

COURSE DESCRIPTION:

This course is intended for students who have a knowledge of application development and programming. This course will provide the basics of C language programming and systems programming for the UNIX operating system. Prerequisite: CS225 or equivalent experience with a high-level programming language. Prerequisite: CS225.

GOALS:

Students completing this course will be able to design, code and test basic C language programs, particularly in a UNIX operating system environment. C programs will be used to access basic operating system services through system calls. Process creation and process synchronization within UNIX will be explored, as well as the use of UNIX system utilities and shell programming.

PERFORMANCE OBJECTIVES:

1. Have a basic understanding of C language programming process and style.
2. Understand the lower-level bit manipulation capabilities in the C programming language.
3. Be able to use standard UNIX command interfaces
4. Be able to design and write UNIX shell scripts.
5. Understand the use of process synchronization mechanisms.
6. Be able to create UNIX processes and synchronize independent UNIX processes.
7. Understand the device interface mechanisms of UNIX.

Department of Computing and Mathematics
COURSE OUTLINE FOR CS344, Continued

TEXTBOOK:

Stones, R. and Matthew, N., Beginning Linux Programming (Wrox Press, 1999)

SUGGESTED SUPPLEMENTAL MATERIALS:

Gottfried, B., Schaum's Outlines Programming with C – Second Edition (McGraw-Hill)

PREREQUISITE KNOWLEDGE BY TOPIC:

1. Proficiency in High-Level Programming Language.

	TOPIC	CLASS HOURS	COURSE OBJECTIVES
1.	Introduction to C Programming	6	Have a basic understanding of C language programming process and style
2.	UNIX shell programming	3	Be able to design and write UNIX shell scripts Be able to use standard UNIX command interfaces
3.	CGI programming	3	Be able to design and write UNIX shell scripts Be able to use standard UNIX command interfaces
4.	UNIX files	3	Have a basic understanding of C language programming process and style
5.	Data management	3	Have a basic understanding of C language programming process and style
6.	Development tools	3	Have a basic understanding of C language programming process and style
7.	Processes and signals	3	Be able to create UNIX processes and synchronize independent UNIX processes.
8.	IPC - pipes	3	Be able to create UNIX processes and synchronize independent UNIX processes.
9.	Semaphores & shared memory	3	Understand the use of process synchronization mechanisms.
10.	Sockets	3	Understand the device interface mechanisms of UNIX

LABORATORY:

No closed laboratory sessions. Open laboratories used for homework assignments.

COMPUTER USAGE:

The chief resource is a laboratory of Sun workstations running under UNIX.

GRADING SYSTEM:

Varies by instructor.

ESTIMATED CONTENT:

Skills:	30%
Content:	70%