README

CSC 303 Data Structures Fall 2020

Credit:	3 credit hours
Instructor:	Mr. Iwan (E1) Sandjaja
Office Location:	301 Plaster
Office Hours:	See CampusWeb
Telephone:	(417) 690-3406
E-mail:	isandjaja@cofo.edu
Final Exam:	01:30 - 03:30 PM Wednesday 12/18

COURSE FEE

None

COURSE DESCRIPTION

The concepts, structure and mechanisms of operating systems are covered with emphasis on managing system resources through the operating system's command language or graphical user interface. Additional concepts covered include processes, concurrency, virtual memory and I/O management, file management, networking and distributed processing. Students will become familiar with several different operating systems. Fall

PREREQUISITES/ CO-REQUISITES

Prerequisite: CSC 303 – Data Structures

COURSE OBJECTIVES

Computer Science is about problem solving. This course will deal specifically with the internals of operating systems with an emphasis on the inventive process and the problems solved through the generations of development that have occurred.

TEXTBOOKS AND OTHER MATERIALS

1. Understanding Operating Systems 8th Edition by Ann McHoes and Ida M. Flynn (https://www.cengage.com/c/understanding-operating-systems-8e-mchoes/9781305674257PF/)
2. Operating Systems Foundations with Linux on the Raspberry Pi by Vanderbauwhede and Singer (https://www.arm.com/resources/education/books/operating-systems)
3. The C Programming Language by Kernighan and Ritchie
4. Understanding the Linux Kernel: From I/O Ports to Process Management

COURSE REQUIREMENTS (assignment, evaluations, outcomes, etc.)

The student's mastery of the concepts presented in the course will be evaluated by the timely completion of assigned programming exercises, exams, and a comprehensive final. This class has a significant emphasis on the Linux operating system environment.

GRADING SCALE

Assignment Category	Weight
Closed Book Work	30%
Notes and Open Book Work	50%
Final Exam	20%

Final Grade	Percentage
A	90%-100%
B	80%-89.99%
C	70%-79.99%
D	60%-69.99%
F	Below 60%

Grades will not be "rounded" at the end of the semester. The final grade letter earned will be attained in full or will not be attained at all. Earning a good overall grade requires consistent, quality effort throughout the semester.

Your grade do not define you, it is just your a performance measure of yours in this class. Have an excellent performance.

Course Outline/Schedule:

Week	Topic	Reading
1	Introduction and Basic operating system concept	UOS Ch. 1, OSF Ch. 1
2	A Practical View of Linux System	OSF Ch. 2
3	Hardware Architecture	OSF Ch. 3
4	Process Management	UOS Ch. 4, OSF Ch. 4
5	Process Scheduling	UOS Ch. 5, OSF Ch. 5
6	Memory Management	UOS Ch. 2, OSF Ch. 6
7	Concurrency and Parallelism	UOS Ch. 6, OSF Ch. 7
8	Input/output	UOS Ch. 7, OSF Ch. 8
9	Persistent storage	UOS Ch. 8, OSF Ch. 9
10	Networking	UOS Ch. 1, OSF Ch. 10
11	Virtualization	UOS Ch. 3, OSF Ch. 11
12	Security	UOS Ch. 11, OSF Ch. 11
13	Study Case - Windows	UOS Ch. 14
14	Study Case - Unix	UOS Ch. 13
15	Study Case - Linux	UOS Ch. 15
16	Study Case - Android	UOS Ch. 16, OSF Ch. 2

ACADEMIC HONESTY

Programming in the computer science industry involves working in teams. As such, teamwork, sharing ideas, and problem solving with other students is encouraged. This "teamwork," however, comes with the usual responsibility of giving credit where credit is due, citing sources, etc. While it is encouraged to help each other, each student is expected to individually wrestle with the problem at hand and work towards a solution. "Borrowing" another students code, in bulk, into your own is unacceptable and cheats yourself out of the learning that comes from personally struggling to solve problems.

College of the Ozarks expects and demands high standards of intellectual honesty from its students. Those high standards demand that dishonest work be rejected and that those students engaging in such work bear the consequences, which may include zero credit on assignments, failing course grades, and/or expulsion from the college.

Cheating on quizzes, tests, examinations, or other graded exercises is (1) borrowing someone's answers, (2) providing answers for other students, (3) using unauthorized material during the exercises, or (4) the acquisition, without permission, of tests or other academic material belonging to a member of the College faculty or staff.

Plagiarism, or academic theft, is presenting the words or ideas of someone else as one's own in an assignment without giving them due credit as the originator of those words or ideas. A student is guilty of plagiarism if he or she submits as his or her own work a written or spoken assignment that contains words or ideas copied from another person's book, article, manuscript, notes, Internet site, calculations, translations, computer programs, or any other source. Obviously, turning in another student's assignment or a paper totally taken from someone else's work is plagiarism. But it is also plagiarism to reword or summarize the words or ideas of another author and present them as part of one's assignment unless one gives the author credit. Plagiarism occurs when a student uses a sequence of words or ideas without having digested, integrated, and reorganized the author's words in his or her own mind and without acknowledgment in the assignment.

Similarly, a student is an accomplice in plagiarism and equally guilty (1) if he allows his own words in outline or finished form to be copied and submitted as the work of another; (2) if he prepares an assignment for another student and allows it to be submitted as that other student's work; or (3) if he keeps or contributes to a file of papers, speeches, tests, lab work, or other assignments with the clear intent that they be copied and submitted as the work of anyone other than the author. Students should keep paper and electronic copies of all their notes and all their drafts of assignments to help prove their authorship in case questions of plagiarism should arise.

HONOR CODE

I agree to be an honest, trustworthy, caring and responsible citizen. I will uphold these values in others and myself.

ATTENDANCE & COURSE POLICIES

Attendance: The level of student success in a class such as this is directly related to his or her class attendance. Students will attend class regularly and participate.

Special Needs: I am available to discuss appropriate academic accommodations/adaptations that may be required for students with disabilities. Please make these requests during the first week of the semester such that arrangements can be made. It is your responsibility to notify me of any special arrangements or needs you may require.

Software: In class, we will use the command line Python tools (e.g., python and python3) and the Spyder Integrated Development Environment (IDE). Both the Python (Anaconda) and Sypder are available for install on your personal computers at no charge.

Assignments: You will not pass this class without completing the assignments. Assignments must be turned in on time. Unless otherwise directed, assignments

will be submitted via CampusWeb on or before the due date. In general, late assignments will be assessed a 50% point deduction for the first day late and will not be accepted after that day unless you have an excused absence. Some assignments will be completed during class time and will not be accepted after the due date/time for credit.

CAVEAT

The schedule and procedures in this course are subject to change in the event of extenuating circumstances.