COSC350 System Software
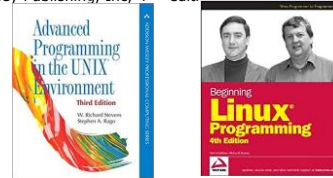
- □ **Instructor:** Dr. Sang-Eon Park
  - **Email:** sxpark@salisbury.edu
  - **Office:** Conway Hall Room 205
  - **Homepage:** http://faculty.salisbury.edu/~sxpark
- □ **Prerequisite**: COSC 220 and COSC 250 with grades of C or better.
- □ **Description:**
  - To help students deepen their understanding of C and C++ programming and program development, mostly in a Linux environment, and develop familiarity with the Linux operating system and script programming.

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- □ **Reference:**
  - "Advanced Programming in the UNIX Environment," by W. Richard Stevens Addison Wesley 3rd edition 2013.
  - "Beginning Linux Programming," by Matthew and Stones; Wiley Publishing, Inc, 4th edition, 2008

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- □ **Lecture & Class Room:**
  - Mon., Wed. 8:00 A.M. ~ 9:15 A.M.
  - Conway #152 (TE 152)

- □ **Lab Hours & Room:**
  - Tu.08:00 A.M. ~ 9:40 P.M. or 10:00 A.M. ~ 11:40 P.M.
  - Henson Hall #143

- □ **Office Hours:**
  - Mon., Wed., Thur.: 11:00 A.M. ~ 01:00 P.M.

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- □ **Lab policy:**
  - Lab assignments will be provided at the beginning of each lab class.
  - Each student is required to attend a lab session each week and start working on new lab assignments.
  - Each lab must be done by the beginning of the next lab class.
  - Student need submit the copy of student's works before the beginning of lab class to cosc350@gmail.com
  - Title of each submission must be lab1, lab2, … with name of each task as task1, task2, ….
  - Each student must be ready to show his/her works at the beginning of each lab class. Instructor will check student's works during the lab class.
  - Late lab submission will not be accepted without special permission (submission date and time will be checked).

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- □ **Lab policy Continue:**
  - Students are expected to work independently on each lab.
  - Discussing assignments to understand a problem, learn language features, or debug a program is acceptable.
  - However, copying code is strictly prohibited. Copying code from another student or any other source (e.g., a web site such as ChatGTP) is considered plagiarism and will be prosecuted under the Code of Student Conduct at Salisbury University. If two students have identical or similar work, both will be given a failing grade.

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Topics:
- □ *The UNIX/Linux Operating System Basics*
  - UNIX/Linux basic commands, login scripts and environment set up, C programming environment, introduction to basic shell scripts
- □ *Working with files*
  - File and directory structure, low level file access, standard I/O library, formatted input and output.
- □ *Process*
  - Basic concepts of Linux process and process attributes, process control using fork, exec and wait, process relationship.

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- □ *Signals*
  - Concept of signals, usage of signal between processes, process functions
- □ *Threads*
  - Thread concepts, thread creation, termination, synchronization, thread control, thread attributes
- □ *Inter-process Communication*
  - Basic concepts of inter-process communication using signals, PIPE, FIFO, Shared Memory, Message Queue, Semaphores, mutex, conditional variable and so on
- □ *Socket Programming*
  - Basic concepts of socket communication, network information and multiple clients

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- □ **Exam Policy:** There will be an announcement one week before each exam. And also, it will be posted on my web page. There will be no make-ups or rescheduling of exams for individual cases (except emergency cases with evidence).
- □ **Grade:** Test 1: 20 %, Test 2: 20 %, Final: 30 %, Lab/Mini Test – 15/15 %. Your final grade will be based on the standard formula
  - **A:** $90 \leq$ Total_Average_score
  - **B:** $80 \leq$ Total_Average_score < 90
  - **C:** $70 \leq$ Total_Average_score < 80
  - **D:** $60 \leq$ Total_Average_score < 70
  - **F:** Total_Average_score < 60

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- □ **Attendance:**
  - Each student is expected to be present each lecture and lab. Attendance will be checked for each class and lab.
  - If a student misses lectures more than 4 times (2 weeks) without any reason with evidence, he/she will lose 3% from the total average score.
  - If a class or lab must be missed, however, students are responsible for all material, assignments, and announcements made during class.

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