CS3432 Computer Architecture I: Computer Organization and Design
Fall 2020 Syllabus
Lecture: CRN 11752; TR 12:00-1:20; Online
Lab: CRN 16084; MW 4:30-5:50; Online
Instructor: Shirley Moore

- **IMPORTANT!**
    - We will use Zoom for lecture sessions. The course is a synchronous online course, meaning that classes will be held at scheduled times with all students expected to attend and participate. A Zoom invitation will be sent by email to all class members.
    - We will use Microsoft Teams for lab sessions and for asynchronous communication. Instructions will be given during the first lecture on how to join and participate in the class team.
- **Course homepage:** http://svmoore.pbworks.com
- **Communication:**
    - If you are asking questions about class topics
        - During class meetings, please post to the Zoom chat.
        - Outside class, please post to the relevant Microsoft Teams channel.
    - For more private matters:
        - Send email to the instructor, TA, and/or IA.

- **Teaching team**
    - Instructor: Shirley Moore, svmoore@utep.edu (see homepage for office hours)
    - Teaching Assistant: Marcus Gutierrez, mgutierrez22@miners.utep.edu
    - Instructional Assistant: Mario Medina, memedinamar@miners.utep.edu

- **Prerequisites**:
    - To succeed in this course, you need familiarity (and to be actively seeking analytic maturity) regarding concepts and techniques taught in digital design (EE2369/2169), elementary data structures and algorithms (CS2401), and discrete math (Math 2300) related to course topics.
    - As stipulated in the course catalog, the usual way to demonstrating this familiarity is by earning a C in (1) all of these courses and (2) Data Structures (CS2302).
    - Students who earn at least B's in EE 2369/2169, CS 2401, and Math 2300 also are ready.
- **Labs**
    - Students **must** enroll in the lab section.
    - **Participation is mandatory.** It is extremely easy to fall behind and imperative that you make arrangements with the instructor or TAs to make–up the missed lessons and work. Lab sessions and assignments will be managed by the TA. Students at risk of failing due to not engaging with the lab section may be dropped.
    - There may be scheduled and unscheduled quizzes in the lab section.
    - Assignments and due dates: See the pbworks course web page.
- **Texts and Readings**

- Required: David A. Patterson and John L. Hennessy. Computer Organization and Design RISC-V Edition: The Hardware Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design) 1st Edition, ISBN: 978-0-12-812275-4
        - Required: Kernighan, Brian W & Ritchie, Dennis M. The C Programming Language, Second edition, Prentice Hall, ISBN: 0-13-115817-1.
        - Other readings and resources will be posted on the course web page.
- **Learning Outcomes**
    - Learning outcomes are described in the CS3432 Learning Outcomes document.
- **Computers**
    - You will need access to a computer capable of running Linux (either natively or using virtualization software) to participate in class activities. You will need to install an ANSI C compiler prior to the start of lab sessions the second week of class. Should you not have access to an appropriate machine, the department has a limited number of portable computers that can be lent out to students.
- **Attendance**
    - Attendance is mandatory at all lecture and lab sessions unless special circumstances are arranged ahead of time with the instructor, or as soon afterwards as possible in the event of an emergency. This course is a synchronous online course, not a pre-recorded asynchronous online course. Lecture sessions will be recorded, but viewing the recorded session is not a substitute for attending class. Breakout groups and hands-on exercises will be part of lecture sessions and it will not be possible to records those portions.

Homework, Tests, and Labs

- **Homework**
    - Students are expected to review topics taught in class, work on solutions to assigned problems, and be able to demonstrate skills and solutions during the next class session. Example problems with solutions will be published on the course web site.
- **Exams/quizzes:**
    - Quizzes
        - Quizzes assess students' abilities to demonstrate knowledge, to design solutions to realistic problems, and to present these solutions in a clear and professional fashion. Quizzes can cover any concept or skill previously taught in the course, are generally offered at the rate of once per week, and are generally unannounced (so students must be continuously prepared).
    - Midterm and Final Exams
        - The midterm exam will occur approximately midway through the course.
        - The final exam date is scheduled by the university based on lecture time.
        - Like quizzes, exams may cover any concept or skill previously taught in the course.
    - The following are prohibited during quizzes and exams unless unambiguous and explicit permission is provided by the instructor:
        - Collaboration or communication with others.
        - Looking up answers in books, on the Internet, etc.
- **Labs**
    - Intention:
        - Labs are intended to provide an opportunity for students to practice and explore the use of tools and apply concepts presented in class within the context of programming projects.

- Projects will be graded during in-person demonstrations with individual students.
  - Demonstrations must occur prior to the project due date. Exceptions must be justified and pre-arranged with the instructor.
  - Students may demonstrate labs multiple times (for updated grades) prior to the project due date.
  - Demonstrations may require students to modify their programs and demonstrate competency with development tools.
- Students are expected to act professionally
  - By reading and studying relevant resources
  - By attributing credit to any person or reference materials that substantively contributed to their solutions
  - By only submitting solutions they fully understand.
  - Professionalism includes honesty, clarity, and accuracy.
  - Students are encouraged to help each other develop and tune their projects. There is no penalty for collaboration as long as it is documented.
- Requirements
  - **Functional:** Assignments will require students to create complete programs or modify programs provided by the instructor.
  - **Documentation:** Submissions should include documentation that facilitates the grader's determination of
    - How to compile, use, and test
    - Principles of operation (e.g., comments and other descriptive prose)
    - Elements of the submission that were developed by others. This includes both algorithms and code. Vague attributions of credit (e.g., "Assistance was received from Jim Smith.") are unacceptable.
  - **Completeness:** Students whose labs do not substantially satisfy functional and documentation requirements will receive no credit for that lab.
- Homework
  - Most class sessions will conclude with an assignment due at the beginning of the next class session (unless otherwise indicated).
  - While most assignments will be neither collected nor graded, student mastery of relevant skills will be tested on quizzes and tests.
- Grading breakdown
  - Lab assignments: 40%
  - Class participation and homework: 20%
  - Midterm exam: 20%
  - Final exam: 20%

Disabilities and Accommodations

- If you have a disability and accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to **cass@utep.edu**. For additional information, please visit the CASS website at **www.sa.utep.edu/cass**.

Academic Honesty

- Students are expected to conduct themselves in a professional and courteous manner, as prescribed by the Standards of Conduct: https://www.utep.edu/hoop/section-2/student-conduct-and-discipline.html

- Submitted work should be unmistakably your own. You may not transcribe or copy a solution taken from another person, book, or other source (e.g., a web page). Copying other's work will not be tolerated. Professors are required to report academic dishonesty and any other violation of the Standards of Conduct to the Dean of Students.
- Permitted collaboration: Students may discuss requirements, background information, test sets, solution strategies, and the output of their programs. However, implementations and documentation must be their own creative work. Students are required to document advice received from others and all resources utilized in the preparation of their assignments.
- If academic dishonesty is suspected: The Dean of Students office will be contacted for adjudication. A temporary "incomplete" grade will be issued if their investigation extends beyond the grading period.