CS 3432 Computer Organization
Fall 2025 Syllabus
Lecture: CRN 13002; MW 9:00-10:20pm; EDUC 302
Lab: CRN 13005; MW 10:30-11:50am; CCSB 1.0704
Instructor: Shirley Moore
Course webpage: http://svmoore.pbworks.com/

CS 3432 is a first systems course about how computer systems work. Computer architecture describes the functional behavior of a computer and computer organization describes the structural relationships. CS 3432 is a course in computer organization that answers questions such as the following:

1. How are programs written in a high-level language, such as C or Java, translated into the language of the hardware, and how does the hardware execute the resulting program?
2. What is the interface between the software and the hardware, and how does software instruct the hardware to perform the necessary functions?
3. What determines the performance of a program, and how can hardware designers or programmers improve the performance?
4. What are the reasons for and the consequences of the recent switch from sequential to parallel processing?

- **Teaching Team**
  - Instructor: Shirley Moore, svmoore@utep.edu
    - Office: CCSB 3.0608
    - Office phone: 915-747-5054
    - Office hours: Mondays 12:00-1:00pm, Thursdays 3:00-4:00pm, others by appointment (in person or virtual)
    - Webpage: http://www.cs.utep.edu/svmoore
  - Teaching Assistant: Daniel Lucio, delucio@miners.utep.edu
  - Instructional Assistant: TBD

- **Prerequisites**
  - To succeed in this course, you need familiarity and maturity with concepts and techniques taught in digital design (EE 2369/2169), data structures and algorithms (CS 2401, CS2302), and discrete math (Math 2300).
  - As stipulated in the course catalog, the usual way to demonstrate this maturity is by earning a C or above in all of the above courses.
  - Students who earn B's or above in EE 2369/2169, CS 2401, and Math 2300 and are taking CS 2302 concurrently, are also considered ready.

- **Lab Section**
  - Students **must** enroll in the associated lab section.
  - Lab sessions and assignments will be managed by the TA.
  - **Participation is mandatory.** It is extremely easy to fall behind and imperative that you make arrangements with the instructor or TA to make-up missed lessons and work. Students at risk of failing due to not engaging with the lab section may be dropped.

- **Texts and Readings**
  - Required: David A. Patterson and John L. Hennessy. Computer Organization and Design RISC-V Edition: The Hardware Software Interface, Second edition, Morgan Kaufmann, 2020, ISBN: 978-0128203316.
  - Recommended: Kernighan, Brian W & Ritchie, Dennis M. The C Programming Language, Second edition, Prentice Hall, 1988, ISBN: 978-0131103627.
  - Other readings and resources will be posted on the course webpage.
- **Learning Outcomes**
  - Learning outcomes are in the separate CS3432 ABET Syllabus document.
- **Computers**
  - You will need access to a computer on which you can compile and run ANSI C programs. Should you not have access to an appropriate machine, the department has a limited number of portable computers that can be lent 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. Breakout groups and hands-on exercises will be part of lecture sessions, and it will not be possible to make up those portions.
- **Grading Breakdown**

  1000-900 = A 899-800 = B 799-700 = C 699-600 = D 599 and Below = F
  - Lab assignments: 40% (400 points)
  - Homework and class participation: 10% (100 points)
  - Quizzes: 10% (100 points)
  - Midterm exam: 15% (150 points)
  - Final exam (comprehensive): 25% (250 points)
- **Course Schedule**
  - The course schedule of topics and assignments will be posted on the course website.

Homework, Tests, and Labs

- **Class participation and homework**
  - Students are expected to review topics taught in class, work on solutions to assigned problems, and participate in class discussion. Homework assignments will be posted on Teams and solutions will be discussed during class.
  - Please use Teams for questions and discussion about course topics and assignments.
  - Some class time will be spent on group work on homework problems. Your homework and class participation grade will be based on your participation in group work.
- **Exams and quizzes**
  - Quizzes
    - Quizzes will be assigned on BlackBoard. Some quizzes will be in-class and some will be take-home. Quizzes will not be accepted late and cannot be made up except in the case of an excused documented absence.
    - You must do your own work on quizzes and not give help to nor receive help from others.

        - You may refer to books, web pages, etc., when doing quizzes, but posting questions to websites that provides answers for free or for a fee is forbidden.
        - You may ask questions about quiz questions during class.
    - 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.
        - Exams will be in-class, closed-book, on-paper.
    - Blackboard will be used for quizzes and to keep track of grades.

- **Labs**
    - Labs are intended to provide an opportunity for students to explore and practice the use of tools and to apply concepts presented in class within the context of programming projects.
    - Lab assignments will be posted on Teams.
    - Lab assignments will be graded during in-person demonstrations that will be scheduled during the week following the lab due date.
    - 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
        - Students are encouraged to help each other develop and tune their lab projects. There is no penalty for collaboration as long as it is documented.

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.

Guidance on Artificial Intelligence

The use of generative AI tools such as Chat GPT is permitted in this course, provided such use is properly acknowledged and documented. Specific more detailed guidelines concerning permissible uses of AI may be included with individual assignments. Please be aware that you must fully understand and be able to explain any solutions that you submit. Solutions that solve a different problem or that do not follow the assignment guidelines will not be accepted or graded.

Students must cite any borrowed content sources to comply with all applicable citation guidelines, copyright law, and avoid plagiarism. Instances that violate these guidelines will be referred to the Office of Student Conduct and Conflict Resolution.

Plagiarism Detecting Software

Some of your course work may be submitted to the SafeAssign or MOSS plagiarism detecting software. These tools are used to review submissions for originality and will help you learn how to properly attribute sources.

Copyright Statement for Course Materials

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

Illness Precautions

Please stay home if you have symptoms of a communicable illness. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations.

UTEP Resources

UTEP provides a variety of student services and support:

Technology Resources

- Help Desk: Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Academic Resources

- UTEP Library: Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- University Writing Center (UWC): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- RefWorks: A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

Individual Resources

- Military Student Success Center: Assists personnel in any branch of service to reach their educational goals.

Course Schedule

The course lecture schedule will be posted at http://svmoore.pbworks.com/