

Syllabus
CS 2614 - Computer Organization
Fall 2025

Text:

Computer System Architecture, by M. Morris Mano, Prentice-Hall, Inc., 1993, Third Edition.

Course Web Address:

<https://canvas.ou.edu/>

Instructor:

Dr. Mohammed Atiquzzaman
Office: DEH 250
Tel: (405) 325-8077
Email: atiq@ou.edu
Office Hours: Tues and Thu 9:15 – 10:15 AM or by appointment.

Lecture/Lab:

T Th: 10:30 – 11:45 AM Dale 103
W: 3:00 – 4:40 PM, Dale 103

Teaching Assistants:

Vishnu Kadiyala
Office: DEH 115
Email: vishnupk@ou.edu
Office Hours: Mon and Tue 4-5 PM or by appointment.

Matthew Agron
Office: DEH 115
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Office Hours: Mon and Wed 1:30 – 2:30 PM or by appointment

Parker Hix
Office: DEH 115
Email: Parker.E.Hix-1@ou.edu
Office Hours: Thu 3-4 PM, Fri 11–12 noon or by appointment

Prerequisite:

CS 2334 (Programming Structures and Abstractions)

Course Description:

An introduction to the architecture, organization, and design of uniprocessor-based computer systems. Topics include processor, control, and memory design and organization, computer arithmetic, and I/O organization.

Course Outline:

Digital Logic Circuits: Boolean Algebra, Map Simplification, Combinational and Sequential Circuits
Digital Components: Decoders, Encoders, Registers, Counters
Data Representation and Number Systems
Register Transfer and Microoperations
Basic Computer Organization and Design
Programming Issues

Grading:

Approximately eight homework will be assigned. Short in-class quizzes using Canvas/paper will be given on the material covered in lectures and homework assignments. The dates of the quizzes will be announced in the homework assignment.

Lab exercises will be assigned. Each lab exercise will typically consist of a pre-lab portion followed by an in-lab exercise where hardware circuits will be constructed.

One assembly language programming project will be assigned.

The lowest quiz grade will be dropped at the end of the semester to account for students who are unable to take a quiz due to illness or unexpected difficulties.

There will be two mid-term tests and a final exam.

Homework	5%
Quizzes	15%
Labs	15%
Programming Project	10%
Mid Term Exam 1	15%
Mid Term Exam 2	15%
Final Exam (Dec 18, 8-10 AM)	25%
Total	100%

Lectures and Labs:

Lectures are crucial for a clear understanding of the course concepts, which differ from other CS courses in that this course is hardware-oriented, focusing on the interface between hardware and software.

Attendance in the lab is **required**.

Late Assignments:

Late assignments are not accepted except in unexpected emergencies.

ABET Outcomes:

The course will measure several ABET outcomes as listed below:

Outcome B: An ability to analyze a problem and identify and define the computing requirements appropriate to its solution.

Outcome C: An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

Outcome D: An ability to function effectively on teams to accomplish a common goal

Outcome I: An ability to use current techniques, skills, and tools necessary for computing practice.

Student ratings:

The College of Engineering utilizes student ratings as one of the bases for evaluating the teaching effectiveness of each of its faculty members. The results of these forms are important data used in the process of awarding tenure, making promotions, and giving salary increases. In addition, the faculty uses these forms to improve their own teaching effectiveness. The original request for the use of these forms came from students, and it is students who eventually benefit most from their use. Please take this task seriously and respond as honestly and precisely as possible, both to the machine-scored items and to the open-ended questions.

Academic Integrity:

All work submitted for an individual grade, such as homework and projects should be the work of that single individual, not their friends or their tutor. Students who fail to do their own work not only violate the Code of Conduct for the University of Oklahoma, but also may fail to learn critical learning objectives for the class.

1. Do not show another student a copy of your homework or projects before the submission deadline.
2. Do not email your project to another student, even if they promise they will not copy it.
3. Make sure that your computer account is properly protected. Use a good password, and do not give your friends access to your account or your computer system.
4. Do not leave thumb drives around a laboratory where others might access them.
5. The penalties for knowingly permitting your work to be copied are the same as the penalties for copying someone else's work.

Upon the first documented occurrence of breach of academic integrity, I will report the academic misconduct to the Campus Judicial Coordinator. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code. In the unlikely event that I elect to admonish the student, the appeals process is described at <http://integrity.ou.edu/students.html>. Check out <http://integrity.ou.edu/> for details about integrity at OU.

Copyright for In-Person or Online Courses:

Sessions of this course may be recorded or live-streamed. These recordings are the intellectual property of the individual faculty member and may not be shared or reproduced without the explicit, written consent of the faculty member. In addition, the privacy rights of others, such as students, guest lecturers, and providers of copyrighted material displayed in the recording, may be of concern. Students may not share any course recordings with individuals not enrolled in the class or upload them to any other online environment.

Generative AI:

We learn best when we are actively engaged in the process of completing all aspects of an assignment. Even the brainstorming and initial draft phase is a time of discovery that is an integral part of your learning. To empower you to fully engage in the learning process, the use of Generative AI, including, but not limited to, ChatGPT, CoPilot, ClaudeAI, Gemini, and Grammarly AI, is considered a violation of the academic integrity policy for this course. As the use of Generative AI to assist in completing any aspect of work for this course is prohibited, this includes using Generative AI to write outlines, conduct research, to write or edit your papers, and to take your quizzes or exams. If using an e-book or search engine that has integrated Generative AI, then you should not rely on the Generative AI output and engage instead with the source material.

University Policies

Mental Health Support Services

Support is available for any student experiencing mental health issues that are impacting their academic success. Students can either be seen at the University Counseling Center (UCC) located on the second floor of Goddard Health Center or receive 24/7/365 crisis support from a licensed mental health provider through [TELUS](#) Health. To schedule an appointment or receive more information about mental health resources at OU please call the UCC at 405-325-2911 or visit [University Counseling Center](#). The UCC is located at 620 Elm Ave., Room 201, Norman, OK 73019.

Title IX Resources and Reporting Requirement

The University of Oklahoma faculty are committed to creating a safe learning environment for all members of our community, free from gender and sex-based discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking, in accordance with Title IX. There are resources available to those impacted, including: speaking with someone confidentially about your options, medical attention, counseling, reporting, academic support, and safety plans. If you have (or someone you know has) experienced any form of sex or gender-based discrimination or violence and wish to speak with someone confidentially, please contact [OU Advocates](#) (available 24/7 at 405-615-0013) or [University Counseling Center](#) (M-F 8 a.m. to 5 p.m. at 405-325-2911).

Because the University of Oklahoma is committed to the safety of you and other students, and because of our Title IX obligations, I, as well as other faculty, Graduate Assistants, and Teaching Assistants, are mandatory reporters. This means that we are obligated to report gender-based violence that has been disclosed to us to the Institutional Equity Office. This means that we are obligated to report gender-based violence that has been disclosed to us to the Institutional Equity Office. This includes disclosures that occur in: class discussion, writing assignments, discussion boards, emails and during Student/Office Hours. You may also choose to report directly to the Institutional Equity Office. After a report is filed, the Title IX Coordinator will reach out to provide resources, support, and information and the reported information will remain private. For more information regarding the University's Title IX Grievance procedures, reporting, or support measures, please visit [Institutional Equity Office](#) at 405-325-3546.

Reasonable Accommodation Policy

The University of Oklahoma (OU) is committed to the goal of achieving equal educational opportunity and full educational participation for students with disabilities. If you have already established reasonable accommodations with the Accessibility and Disability Resource Center (ADRC), please [submit your semester accommodation request through the ADRC](#) as soon as possible and contact me privately, so that we have adequate time to arrange your approved academic accommodations.

If you have not yet established services through ADRC, but have a documented disability and require accommodations, please complete [ADRC's pre-registration form](#) to begin the registration process. ADRC facilitates the interactive process that establishes reasonable accommodations for students at OU. For more information on ADRC registration procedures, please review their [Register with the ADRC](#) web page. You may also contact them at (405)325-3852 or adrc@ou.edu, or visit www.ou.edu/adrc for more information.

Note: disabilities may include, but are not limited to, mental health, chronic health, physical, vision, hearing, learning and attention disabilities, pregnancy-related. ADRC can also support students experiencing temporary medical conditions.

Religious Observance

It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty. [\[See Faculty Handbook 3.15.2\]](#)

Adjustments for Pregnancy/Childbirth Related Issues

Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact the Accessibility and Disability Resource Center at 405/325-3852 and/or the Institutional Equity Office at 405/325-3546 as soon as possible. Also, see the Institutional Equity Office [FAQ on Pregnant and Parenting Students' Rights](#) for answers to commonly asked questions.

Final Exam Preparation Period

Pre-finals week will be defined as the seven calendar days before the first day of finals. Faculty may cover new course material throughout this week. For specific provisions of the policy please refer to OU's [Final Exam Preparation Period policy](#).

Emergency Protocol

During an emergency, there are official university [procedures](#) that will maximize your safety.

Severe Weather: If you receive an OU Alert to seek refuge or hear a tornado siren that signals severe weather.

1. Look for severe weather refuge location maps located inside most OU buildings near the entrances.
2. Seek refuge inside a building. Do not leave one building to seek shelter in another building that you deem safer. If outside, get into the nearest building.
3. Go to the building's severe weather refuge location. If you do not know where that is, go to the lowest level possible and seek refuge in an innermost room. Avoid outside doors and windows.
4. Get in, Get Down, Cover Up
5. Wait for official notice to resume normal activities.

Additional [Weather Safety Information](#) is available through the Department of Campus Safety.

The University of Oklahoma Active Threat Guidance

The University of Oklahoma embraces a Run, Hide, Fight strategy for active threats on campus. This strategy is well known, widely accepted, and proven to save lives. To receive emergency campus alerts, be sure to update your contact information and preferences in the account settings section at one.ou.edu.

RUN: Running away from the threat is usually the best option. If it is safe to run, run as far away from the threat as possible. Call 911 when you are in a safe location and let them know from which OU campus you're calling from and location of active threat.

HIDE: If running is not practical, the next best option is to hide. Lock and barricade all doors; turn off all lights; turn down your phone's volume; search for improvised weapons; hide behind solid objects and walls; and hide yourself completely and stay quiet. Remain in place until law enforcement arrives. Be patient and remain hidden.

FIGHT: If you are unable to run or hide, the last best option is to fight. Have one or more improvised weapons with you and be prepared to attack. Attack them when they are least expecting it and hit them where it hurts most: the face (specifically eyes, nose, and ears), the throat, the diaphragm (solar plexus), and the groin.

Please save OUPD's contact information in your phone.

NORMAN campus: *For non-emergencies call (405) 325-1717. For emergencies call (405) 325-1911 or dial 911.*

TULSA campus: *For non-emergencies call (918) 660-3900. For emergencies call (918) 660-3333 or dial 911.*

Fire Alarm/General Emergency

If you receive an OU Alert that there is danger inside or near the building, or the fire alarm inside the building activates:

1. *LEAVE* the building. Do not use the elevators.
2. *KNOW* at least two building exits
3. *ASSIST* those that may need help
4. *PROCEED* to the emergency assembly area
5. *ONCE safely outside, NOTIFY first responders of anyone that may still be inside building due to mobility issues.*
6. *WAIT* for official notice before attempting to re-enter the building.

[OU Fire Safety on Campus](#)