

**Syllabus**  
**CS 2614 - Computer Organization**  
**Spring 2024**

**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  
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Office Hours: Mondays and Wednesdays 1:45 – 2:45 pm or by appointment.

**Lecture/Lab:**

M W: 3:00 – 4:15 pm Felgar Hall 300  
F: 3:00 – 4:40 pm, Felgar Hall 300

**Teaching Assistants:**

Yonathan Hendrawan  
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Office Hours: Mon 4:30 - 5:30 PM, Tues 12 noon – 1 PM, Thu 10 – 11 AM

**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 homeworks 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 to account for the inability 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	25%
Total	100%

### **Lectures and Labs:**

Lectures are very important to get a clear understanding of the concepts in this course which is different from other CS courses in the sense that it is a hardware-oriented course that focuses on the interface of hardware and software. Attendance at the lab is required.

### **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.

### **Masking and Vaccination Policy:**

Please checkout <https://www.ou.edu/together>.

### **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.

### **Religious Observance:**

It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays.

### **Reasonable Accommodation Policy:**

Students requiring academic accommodation should contact the Accessibility and Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please visit <http://www.ou.edu/drc/home.html>. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

### **Title IX Resources:**

For any concerns regarding gender-based discrimination, sexual harassment, sexual assault, dating/domestic violence, or stalking, the University offers a variety of resources. To learn more or to report an incident, please contact the Sexual Misconduct Office at 405/325-2215 (8 to 5, M-F) or [smo@ou.edu](mailto:smo@ou.edu). Incidents can also be reported confidentially to OU Advocates at 405/615-0013 (phones are answered 24 hours a day, 7 days a week). Also, please be advised that a professor/GA/TA is required to report instances of sexual harassment, sexual assault, or discrimination to the Sexual Misconduct Office. Inquiries regarding non-discrimination policies can be directed to University Equal Opportunity Officer and Title IX Coordinator at 405/325-3546 or [smo@ou.edu](mailto:smo@ou.edu). For more information, visit <http://www.ou.edu/eoo.html>.

### **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 your professor or the Disability Resource Center at 405/325-3852 as soon as possible. Also, see <http://www.ou.edu/eoo/faqs/pregnancy-faqs.html> 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.

[Link to Severe Weather Refuge Areas](#) , [Severe Weather Preparedness - Video](#)

### **Armed Subject/Campus Intruder:**

If you receive an OU Alert to shelter-in-place due to an active shooter or armed intruder situation or you hear what you perceive to be gunshots:

1. GET OUT: If you believe you can get out of the area WITHOUT encountering the armed individual, move quickly towards the nearest building exit, move away from the building, and call 911.
2. HIDE OUT: If you cannot flee, move to an area that can be locked or barricaded, turn off lights, silence devices, spread out, and formulate a plan of attack if the shooter enters the room.
3. TAKE OUT: As a last resort fight to defend yourself.

For more information, visit <http://www.ou.edu/emergencypreparedness.html>,

[Shots Fired on Campus Procedure - Video](#)

### **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](#)

### **Mental Health Support Services:**

If you are experiencing any mental health issues that are impacting your academic performance, counseling is available at the University Counseling Center (UCC). The Center is located on the second floor of the Goddard Health Center, at 620 Elm Rm. 201, Norman, OK 73019. To schedule an appointment call (405) 325-2911.

For more information please visit <http://www.ou.edu/ucc>.

### **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, 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.