



Course Syllabus: Logic Design

McCoy College of Science, Mathematics and Engineering
CMPS 3023 Section 101
Fall 2026

Contact Information

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Course Description

Study of topics related to the design of modern microprocessors, including Boolean algebra, logic gates, design simplification techniques, memory design, programmable control units, and use of hardware description languages.

Textbook

Recommended:
Computer Organization Digital Design and Computer Architecture, by David Harris and Sarah Harris or Digital Logic and Microprocessor Design with Interfacing, by Enoch Hwang, 2nd ed.

Study Hours and Tutoring Assistance

Available in Bolin room 115

Student Handbook

Refer to: [Student Handbook](#)

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given). The Department of Computer Science has adopted the following policy related to academic misconduct. The policy will be applied to all submission of work for credit as determined by the instructor of the course, e.g., assignments, quizzes and exams:

- 1st instance of cheating in the program: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. If the final

grade in the course does not result in a one letter grade reduction, the student will receive a one letter grade reduction in course.

- Further instances of cheating in any course within the program: The student will receive a grade of F in the course & be removed from the course.
- All instances of cheating will be reported to the Department Chair, the MCOSME Dean, the Dean of Graduate Students, if a graduate student, and the Office of Rights and Responsibilities, who may decide at their own discretion to impose a stiffer sanction based on knowledge of other instances of cheating at MSU Texas.

Additional guidelines on procedures in these matters may be found in the [Office of Student Conduct](#)

Moffett Library

Moffett Library provides resources and services to support student's studies and assignments, including books, peer-reviewed journals, databases, and multimedia materials accessible both on campus and remotely. The library offers media equipment checkout, reservable study rooms, and research assistance from librarians to help students effectively find, evaluate, and use information. Get started on this [Moffett Library webpage](#) to explore these resources and learn how to best utilize the library.

Grading

Course Grade – Assignments are counted as a percentual of your final grade, according to the table below

Table 1: Percentage allocated to each assignment

Assignments	Percentage
Tests (two)	20 % each
Homework	20 %
Mini projects	15 %
Class participation	5 %
Final Exam	20 %
Total Percentage	100 %

Table 2: Total percentage for final grade.

Grade	Percentage
A	90 %
B	80 to 89.9 %
C	70 to 79.9 %
D	60 to 69.9 %
F	Less than 60 %

Homework

Assignments will be made as scheduled and are expected to be completed by the specified due date. Grades will be given to the assignments handed in on time in class or through D2L submission. Late assignments will be accepted until one class past the due date, however, they will have their maximum grade reduced by twenty points. Any assignment turned in after that period or not done will be graded zero points. Students on this course must demonstrate their competency in fundamental math skills through assignments and tests.

Exams

There are two tests and one final exam graded in the range 0 to 100 points, each of them corresponding to 20% of your final grade. Tests and final exam dates are shown in the Course Schedule.

Projects Required

There are three mini projects graded in the range 0 to 100 points, each of them corresponding to 5% of your final grade. Mini project assignment dates are shown in the Course Schedule, due dates will be specified in the assignment.

Extra Credit

Extra credit assignments will be discussed in class.

Make Up Work/Tests

Make up missed tests will be discussed case by case. Homework and mini projects will not have a make up option

Important Dates

- Last day for term schedule changes: August 27, 2026
- Deadline to file for graduation: September 21, 2026.
- Last Day to drop with a grade of "W:" November 23, 2026
- Refer to: [Drops, Withdrawals & Void](#)

Desire-to-Learn (D2L)

Recommended use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor.

Attendance

Students are expected to attend all meetings of the classes in which they are enrolled. Attendance is rewarded by the participation points in the grading criteria. Attendance will be randomly verified and if a student is absent from more than 5 classes without a documented excuse and is not performing well in class, a report will be submitted to the Dean of Students, and the student may be dropped from the class. Students will lose one-point in the participation grade for every

recorded missed class without documented excuse beyond the second absence. Classes will not be streamed for absent students, whether it is excused or not.

Computer Requirements

Taking a computer science class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a working computer in this class with the required software tools installed. *Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or projects.* Computers are available on campus in various areas of the buildings as well as the Academic Success Center. Your computer being down is not an excuse for missing a deadline!! Contact your instructor immediately upon having computer trouble. If you have technical difficulties in the course, there is also a student helpdesk available to you. The college cannot work directly on student computers due to both liability and resource limitations; however, they are able to help you get connected to our online services. For help, log into [D2L](#).

Recording Classes

****Recording classes is generally prohibited without the professor's explicit permission.*** Such recordings, when permitted, are for personal use only and may not be uploaded to the internet or otherwise shared, transmitted, or published without the professor's prior consent. Some faculty may not permit recordings of their classes. When it is feasible and appropriate, students may record classes to accommodate disabilities under the Americans With Disabilities Act, with prior approval of Disability Support Services. Such recordings may not be uploaded to the internet or otherwise shared, transmitted, or published.

Instructor Class Policies

Testing Process: The Department of Computer Science has adopted the following policy related to testing:

- All bags, purses, electronics (turned off), books, etc. will be placed in the front of the room during exams, or in an area designated by the instructor.
- Unless otherwise announced by the instructor, nothing is allowed on the desk but pen/pencil/eraser and test papers.
- No student is allowed to leave the room during an exam and return.

Assistance: Please contact your instructor for extra help during this course. This includes class material clarification, expected absences from class due to any personal problem, etc.

Inclement weather: In the event that campus is closed due to weather on a date when an exam is scheduled or a homework assignment is due, the exam date or homework assignment due date will shift to the next class period when campus is back open. In a regular class day, login to D2L for further instructions (online class or some other activity may be assigned)

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. Two formulas (federal and state) exist in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the Student Wellness Center, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

Emergency Aid Resources for Basic Needs

Unexpected life circumstances can affect anyone. If you are experiencing challenges meeting basic needs—such as housing, utilities, food, transportation, healthcare, technology, textbooks or other life necessities, resources may be available to help. Visit the [Student Emergency Support and Resources webpage](#) to learn more, and explore emergency support opportunities through MSU and how to access them. For additional information, please contact the Office of Student Affairs: Clark Student Center #108, (940) 397-7500, student.affairs@mstuexas.edu.

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#)

Smoking/Tobacco Policy

Midwestern State University seeks to provide a safe, healthy, pleasant environment for its faculty, staff, and students. To this end, the use of tobacco products, including smoke and smokeless tobacco, and the advertising, sale, free distribution, and discarding of tobacco products shall be prohibited in all indoor and outdoor facilities and in all university vehicles. The policy extends to faculty, staff, students, vendors, guests, and visitors.

Alcohol and Drug Policy

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on University property or at University-sponsored activities.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes has prohibited. The new Constitutional Carry law does not change this process. Concealed carry still requires a License to Carry permit, and openly carrying handguns is not allowed on college campuses. For more information, visit [Campus Carry](#).

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit [MSUReady – Active Shooter](#). Students are encouraged to watch the video entitled “Run. Hide. Fight.” which may be electronically accessed via the University police department’s webpage: [“Run. Hide. Fight.”](#)

Grade Appeal Process

Students who wish to appeal a grade should consult the Midwestern State University MSU Catalog. The MCOSME website provides information on the process for grade appeals or appeals of academic honesty sanctions. The Grade Appeal Checklist provides the timeline for appealing from the instructor to the next in line (dean of the college). The Academic Honesty Checklist describes the timeline for appealing from the instructor to the next in line (chair of department).

***Notice:** Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

Course Schedule:

Day	Activities/Assignments/Exams	Due Date
Aug 25-	Introduction	
Aug 27-	Binary numbers – negative values	
Sep 1-	Fractions - Floating point	
Sep 3-	Logic gates - transistors	
	Homework Assignment # 1	
Sep 7-	Labor Day	
Sep 8-	Switching functions	
Sep 10-	Power consumption - Boolean algebra	Homework 1 due
Sep 15-	Properties/theorems	
Sep 17-	Logic to gates – don't cares	
	Homework Assignment # 2	
Sep 22-	Karnaugh maps - introduction	
Sep 24-	Sum of products/product of sums	Homework 2 due
	Homework # 3 and Mini #1	
Sep 29-	Karnaugh maps - examples	
Oct 1-	5 input Karnaugh map	Homework 3 due
Oct 6-	Don't cares	
Oct 8-	Test # 1	
Oct 13-	Quine-McCluskey method	Mini 1 due
Oct 15-	Multiplexers, Decoders	
Oct 20-	Introduction to Quartus VHDL	
Oct 22-	VHDL - examples	
	Homework # 4 and Mini #2	
Oct 27-	Project example	
Oct 29-	Timing - Glitches	Homework 4 due
Nov 3-	Sequential circuits - latches	
Nov 5-	D Flip-flops - VHDL - registers	Mini 2 due
Nov 10-	Sequential logic design	
Nov 12-	Project example - register	
	Homework # 5 and Mini 3	
Nov 17-	Finite state machine	
Nov 19-	Mealy and Moore FSM	Homework 5 due
Nov 24-	Digital building blocks	
Nov 25-29	Thanksgiving Break	
Dec 1-	Test # 2	
Dec 3-	Digital building blocks	Mini 3 due
Dec 8-	Finals (Tuesday, 1:00 pm)	