

Midwestern State University
Department of Computer Science
Summer 2026

Course Information

Course syllabus: Topics in Comp. Sci.: Scientific Computing in Unix Systems.
Course number: CMPS 4553.
Course Section: 301.
Class Days: Monday to Thursdays.
Class hours: 10:10 am to 12:10 pm.
Classroom: Bolin 103.

Instructor Information

Instructor's Name: Doctor Eduardo Colmenares.
Instructor's office: Bolin Hall, office 124B.
Instructor's email: eduardo.colmenares@msutexas.edu

Office Hours

Monday: 9:00 am to 10:00 am
Tuesday: 9:00 am to 10:00 am
Wednesday: **No office hours**
Thursday: 9:00 am to 10:00 am.
Friday: **No office hours**

ZOOM information

[Zoom Link](#)

Course Description

The course provides an introduction to computer programming concepts and techniques that will allow computer scientists to have a better interaction with mathematicians and engineers. This class will expose students to practical applications of computing, appropriate project practices, and powerful tools available in a UNIX environment.

Textbook

Is the textbook required? The answer is no.

Required Software

Virtual machine with Ubuntu on it and C++ Compiler.
Winscp.
Putty.

Evaluation Process

The final grade for this course will be based on participation, projects and exams. A description is provided below:

- You will have three tests; each one of these tests is worth 10.5 percent.
- All your tests will count for 31.5 percent of final your grade.
- You will have several assignments. All your assignments will count for 40.5 percent of final your grade.
- The next category is attendance. Attendance will count for 5 percent of your final grade.

- You will have one final project/Presentation worth 23 percent.
- No makeup participation activities or assignments are given.
- Arriving late, leaving early to class voids the right to take an in-class homework if it already started or it is about to start.
- Students that happen to arrive late to an exam will not be allowed to take it, if at least one exam has been completed and delivered already.

Evaluation Process Summary Table

Category	Percentage
Test 1	10.5%
Test 2	10.5%
Test 3	10.5%
Homework (x3 or more)	40.5%
Project	23%
Attendance	5%

Grading Policy

89 to 100 points is an A.

79 to 88.99 points is a B.

69 to 78.99 points is a C.

59 to 68.99 points is a D.

0 to 58.99 points is an F.

Attendance

- Attendance is a component of the course grade (five percent). Each student will begin with 100 points for their attendance grade. For each additional unexcused absence 50 points will be subtracted from the attendance grade.
- Your instructor will go over the class roster at the beginning of class and will call the students by name, if the student is not present at that time, an absence will be given and not removed after arrival. Arriving late will be considered unexcused absence. The Attendance grade is 100% under the student's control.
- After four (4) unexcused absences, the student will be dropped from the class (To be enforced).
- In the case of international students, in addition to an absence, an email will be send to you and Miss Rhiannon Barnett (International Services Specialist) dso@msutexas.edu. Your faculty members are not responsible for your immigration status. It is in your best interest to maintain a correct and good immigration status.
- Traveling during the semester to attend a family related manners such as weddings, vacations, etc, will not exclude you from an absence and will waive the right to any exam, quizzes, presentations, projects due during the time that were absent.
- Additional class attendance related MSU Policies apply.

Tests

Tests are comprehensive in nature. No make-up exams will be given, except for the following cases:

- Properly documented Surgery, Medical Emergency, Death in the family, Presentation at a Conference, some others as determined by the instructor.
- If you miss an exam, the make-up exam you need to notify the instructor and demonstrate with the proper official documentation (signatures, seals, contact information) that an emergency that you could not circumvent existed. This documentation must be presented not later than 24 hours after the test.

- a. Students who miss an exam due to University business should notify the instructor in advance, and present the sponsoring university member's written justification.
- b. If your instructor cannot verify or validate the given documentation, then it will consider invalid and no make-up exam will be given.

If you do miss an exam and your case fall in one of the categories above this means that you have a properly documented case. Your instructor will proceed to assign a temporary grade of zero, which will be substituted for your excused test grade (Following Exam). However, this substitution can only be performed once during the semester. There are no make-up exams for Test 3. Exams are uniquely composed for each term.

Homeworks

This category may have two types of homeworks, in class homeworks (ICH) and take home homeworks (THM). Take-home homework assignments must be completed without the assistance of any AI tools or classmates. The main objective of these assignments is to expose students to situations in which conceptual knowledge, combined with critical thinking skills, results in a functional and valid solution, while developing and strengthening the lifelong, marketable skills expected of a computer scientist.

In-class homework assignments may be designed to be completed on paper or on a laptop. However, during these assignments, the use of AI plugins or AI assistants is strictly prohibited and will result in an automatic grade of zero for the assignment.

Students must be prepared to defend and properly explain any submitted code or homework at any time.

Laptop Policy

For this class, you are not required to buy a laptop. However, if the instructor announces an ICH (In Class Homework) or ICA (In Class Activity), you are responsible for:

- a. Bringing a laptop with all necessary programs properly installed, configured a tested.
- b. Bringing the laptop's charger: If you do not bring your charger and cannot complete the assignment(s) because your battery died, then your grade will not be a good one.
- c. Make sure that you have a fully working and in-classroom tested Wi-Fi capabilities. If you cannot submit your homework because your Wi-Fi does not work, then your grade will not be a good one.

No Procrastination Policy

Students are strongly encouraged to contact the instructor during office hours to clarify questions associated with lectures, exams, assignments, presentations, quizzes, homework, etc. Questions are more than welcome from the moment the assignments, projects, quizzes, exams are either released or announced, however, all questions stop the day before the assignment, exam, quiz, presentation is due. This rule is designed to promote responsible time management and personal organization.

Late Policy & Deadlines

- Submitted work is due when specified, as specified (format) by the instructor. It is in the student's best interest to keep track of all deadlines.
- The instructor is not required to remind students of ANY date and/or deadline associated with tests, homework, reports, project assignment, etc.
- **Late assignments WILL NOT BE ACCEPTED. This rule will be enforced**

- **What does it mean to be late?** Answer: for example, if your assignment is due today at 8:00 am and you attempt to deliver your report by 8:00:01 am (1 second late) then it will be considered late. There will not be exemptions of any kind.
- **Assignments MUST be submitted to the corresponding Dropbox via D2L before it closes (deadline).** If the Dropbox has closed and you cannot upload your assignment to it, then you are late and your assignment will not be accepted.
- Students will have more than enough time to complete their assignment on time.
- Internet outage, computer problems, car problems, work, and several others are NOT a valid excuse for a late delivery.
- Very Important: Before you submit any file, take your time and double OR triple check that
 - a. You are uploading the correct and ALL necessary files
 - b. Your work is correct at the best of your abilities
 - c. Failure to fulfill (a) and (b) ON TIME, WILL NOT excuse you from a bad grade.

Please let your instructor know if you are going to miss a class for academically related extracurricular activities. If this is the case you must present the sponsoring university member's written justification before your absence occurs.

Excusing Late Work

Any document used to excuse the late delivery of an assignment MUST be presented no longer than two days from the corresponding missed deadline. Valid excuses (Surgery, Medical Emergency, Death in the family, and Presentation at a Conference). Failure to fulfill this requirement will make null the excuse, leading to a permanent grade of zero in the corresponding assignment.

Additional Grade Policy

Once the grades, have been either returned to the students, or published via D2L, the student will have one day to examine them and check for inconsistencies, errors, etc. After the one day window of opportunity all grades will become PERMANENT and WILL NOT change. It is not only the student's responsibility to check the accuracy of his/her grades, but also in his/her best interest to do it. This rule DOES NOT apply to the final exam because the final is exam triple checked by the instructor before publishing the grade.

Academic Misconduct Policy & Procedures

Cheating, collusion, and plagiarism (the act of using source material of other persons, devices, AI Generators, 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 cheating (academic misconduct). The policy will be applied to all instances of cheating on assignments and exams as determined by the instructor of the course. (See below for link to MSU definitions.)

- 1st instance of cheating in a course: 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.*
- 2nd instance of cheating in a course: The student will receive a grade of F in course & immediately be removed from course.
- All instances of cheating will be reported to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

Note: Letting a student look at your work is collusion and is academic misconduct!

Can I use AI to solve my homework and/or project: The answer is NO, this is also an academic misconduct!

See Also: [MSU Student Handbook](#): Appendix E: Academic Misconduct Policy & Procedures.

Policy on Testing Process

The Department of Computer Science has adopted the following policy related to testing.

- a) 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.
- b) Unless otherwise announced by the instructor, nothing is allowed on the desk but pen/pencil/eraser and test papers.
- c) You are not allowed to leave the classroom. Please take this seriously and into consideration before any test and the final. Prepare yourself to be in the classroom during the entire exam.
- d) If you decide to leave the classroom during a test and/or the final exam, your exam will be collected, and you will not be allowed to continue.

Classroom Civility

All violations of classroom civility will be reported to the Dean of Students.

Students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to ensure that all students gain from time spent in class, students are prohibited from engaging in any form of distraction, e.g. leaving the room for extended periods of time, reading newspapers (or other articles), working on other courses, and using cell-phones or laptops for calls or messages. If you indulge in any such inappropriate behavior (without explicit consent of the instructor), you will (at the very least) be asked to leave the classroom. [MSU Dean of Students Website](#).

Student with Disabilities

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from disability support office during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Disability Support Office has been provided. For additional information you may contact the [Disability Support Services](#).

Dean of Students

The Dean of Students can assist in notifying the campus community of student illnesses, immediate family deaths and/or student death. Generally, in cases of student illness or immediate family deaths, the notification to the appropriate campus community members occur when a student is absent from class for four consecutive days with appropriate verification. It is the student's responsibility for missed class assignments and/or course work during their absence. [MSU Dean of Students Website](#).

RECORDING OF CLASS LECTURES

Permission must be requested in writing & obtained from the instructor before recording of class lectures. If permission is granted, the recording may only be used by the student making the recording. Recordings may NOT be posted on any internet source without written

permission of the instructor. Failure to adhere to the policy may result in removal from the course with a grade of F or other appropriate punishment.

University's Campus Carry

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage at [Campus Carry](#).

Additional Office Hours & Meeting Policies

In order to protect your wellbeing and the one of those that you care about, the following preventive measurements will take place:

- a) Office hours may be conducted virtually via Zoom. To request a virtual meeting, students must email the instructor in advance and include their first and last name, course name, and several possible meeting times. Requested times must fall within the office hours listed at the beginning of this syllabus. Virtual office hours are not additional office hours; they are held during the instructor's scheduled office hours. After receiving the request, the instructor will send a Zoom invitation. Please refer to this syllabus for detailed office hour information.
- b) Your instructor will not touch any computer or USB Drive. NO Exemptions.
- c) If at some point you need/want me to look at your programming assignment or class project, you can do it by sharing your desk via ZOOM (Virtually) during office hours.
- d) Questions associated with ADVISING, degree plans, etc., will be addressed (Virtually-ZOOM) during office hours.
- e) The faculty member is open and available to face to face meetings if the student is in good health condition and not showing symptoms of running nose, sneezing, coughing.

Research and Creative Activity Opportunities at MSU

Enhancing Undergraduate Research Endeavors and Creative Activities (EURECA) is a program that provides opportunities for undergraduates to engage in high-quality research and creative activities with faculty. EURECA provides incentives and funding through a system that supports faculty and students engaged in collaborative research and creative works. For more information contact the Office of Undergraduate Research at (940) 397-6274 or by email at eureca@msutexas.edu or better yet, stop by the UGR office located in the atrium of the Clark Student Center, room 161. Information and resources are also available at [Eureca's website](#)

Undergraduate Research Opportunities and Summer Workshop (UGROW)

Like EURECA, UGROW provides opportunities for students to conduct research with faculty. However, the research occurs in the summer. For five weeks UGROW students experience the authenticity of scientific research as well as research and creative activities in art, music, theater education, business, health and social sciences, English, history, etc. in a highly interdisciplinary environment. Students work on projects of their choice and present their findings at the end of program and the MSU Undergraduate Research and Creative Activity Forum. Faculty members will introduce their research ideas February 13th, 2019, at 5:00 p.m., Comanche Suites, Clark Student Center. A break-out session with individual faculty members will follow. If you have any questions, contact the Office of Undergraduate Research at (940) 397-6274 or by email at eureca@msutexas.edu. More information and resources are available at [ugrow's website](#)

Pregnant and Parenting Students

To support the academic success of pregnant and parenting students and students with pregnancy related conditions, the University offers reasonable modifications based on the student's particular needs. Any student who is pregnant or parenting a child up to age 18 or has conditions related to pregnancy, may contact MSU's designated Pregnancy and Parenting Liaison to discuss support available through the University. The Liaison can be reached by emailing ruby.garrett@msutexas.edu or calling 940-397-4500. Should a student communicate with me that they are pregnant or have a pregnancy related condition or may need additional resources related to pregnancy or parenting, I will communicate that student's information to the Title IX Coordinator, who will work with the student and others, as needed, to ensure equal access to the University's education program or activity.

A pregnant student, a parenting student, or a student with pregnancy related conditions may be provided with supportive measures, based on the student's individualized needs, analogous to those provided to a student with a temporary medical condition, and provided such supportive measures do not fundamentally alter the nature of an education program or activity.

Precautions for Covid, Flu, Streptococcus, or any respiratory disease.

You are not obligated to wear a mask; however, if you wish to show courtesy and help protect the well-being of your classmates, please feel free to wear one. This would be greatly appreciated.

Tentative Agenda

The instructor reserves the right to add, remove, reorder topics as he considered convenient towards the benefit of the class. By the end of the semester you will have a very good understanding of the following categories and multiple non mentioned subcategories.

1. Syllabus, Virtual Machine
2. C++ Review
 - a. Functions
 - b. Arrays
 - c. Pointers
 - d. Classes, Objects
 - e. Structures
 - f. Vectors
3. Floating point representation
4. Unix intro
5. Unix Scripting, Shell Programming
6. Project Maintenance
7. Solutions of Equations of One variable
8. Interpolation and Polynomial Approximation
9. Numerical Solution of Initial Value problems

Important Dates

1. Test 1: Monday-June 8th, 2026
2. Test 2: Monday-June 22nd, 2026

3. Test 3: Monday-June 29th, 2026
4. Project Presentations: June 30th, July 1st and July 2nd.
5. **Important:** Some Assignments May take place at the classroom if decided by the instructor. Students will be informed with time about it