

CMPS 4883: Programming Techniques Fall 2026 Syllabus

Catalog Description:

This undergraduate-level computer science course explores common programming techniques for solving algorithmic problems, with an emphasis on technical interview preparation and programming competitions.

Contact Information:

Instructor: Mika Morgan, Ph.D.
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Office Hours: MTWR 1:00 - 2:30 pm, or by appointment

Required Textbook and Materials:

There is no required textbook for this course. Lecture notes, programming exercises, and supplemental materials will be provided through D2L.

Students seeking additional explanations and practice may find the free [OpenDSA](#) online textbook helpful.

Many of the programming examples are from [NeetCode](#), which also provides tutorial videos along with explanations and sample code.

Learning Objectives:

At the conclusion of this course, students should be able to:

- Analyze the requirements of an algorithmic problem
- Identify and apply appropriate programming techniques to solve a given problem
- Select appropriate data structures and algorithms based on problem requirements
- Analyze and compare the time and space complexity of alternative solutions
- Implement efficient and correct solutions to moderately complex programming problems

Major Topics:

1. Algorithm Analysis
2. Simulation and Implementation
3. Hashing and Efficient Data Structures
4. Two Pointers and Sliding Window
5. Sorting and Binary Search
6. Stacks and Queues
7. Trees and Graphs
8. Dynamic Programming
9. Greedy Algorithms
10. Technical Interview and Competitive Programming Strategies

Exams and Assignments:

There will be one midterm and one comprehensive final exam. Exams cover material from the lectures as well as in-class programming activities. During pair programming activities, both partners are expected to actively contribute to the design, implementation, testing, and discussion of the solution.

Course Evaluation:

Assignments	Points
Homeworks 10 HWs, 2 pts. each	20 pts
Quizzes 10 quizzes, 2 pts. each	20 pts
Pair Programming Assignments 10 programs, 2 pts. each	20 pts
Midterm Exam	20 pts
Final Exam	20 pts

In order to help students keep track of their progress toward course objectives, the course instructor will provide grade updates using D2L. Only final grades will be reported on the students' transcripts. Students earning below a C at midterm should discuss progress with the instructor.

Grading scale:

- A: 89.5 - 100
- B: 79.5 - 89.4
- C: 69.5 - 79.4
- D: 59.5 - 69.4
- F: < 59.4

Behavior in the Classroom:

Students are to assist in maintaining a classroom environment that is conducive to learning. Electronic devices should be silenced, and there should not be off-topic conversation while the instructor is lecturing. Disruptive students may be asked to leave the room.

Make Up Assignments:

- For planned absences: exams may be taken early *by prior arrangement*
- For unplanned absences: a missed exam can be replaced by the final exam grade
- Missed quizzes and homework may not be made up

Policy on Testing Process:

No electronics of any kind, including ear buds and smart watches, are allowed on the student, unless the instructor has approved a calculator. Nothing is allowed on the desk but pen/pencil/eraser and test papers. *A student who leaves the room during an exam must turn in the test and will not be allowed to return.*

Policy on Technology and AI Usage

Students will need regular access to D2L, LeetCode, and a modern web browser to complete course activities. Access to a computer capable of running a web browser and programming tools is expected.

Generative AI tools (e.g., ChatGPT, Claude, Gemini, or Copilot) may be used **only** for designated AI Programming Reflection assignments or when explicitly permitted by the instructor. Unless otherwise stated, the use of generative AI tools during quizzes, exams, and in-class programming activities is prohibited.

Academic Misconduct Policy & Procedures:

Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting and paraphrasing, 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.

- 1st instance of cheating in a course: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. *In addition, the student will receive a one letter grade reduction in course, if the grade doesn't result in a grade reduction.*
- 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!

See the [MSU Student Handbook](#) for more information on the academic misconduct policy.

Students 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 necessary arrangements. Students must present appropriate verification from the University's Disability Support Services (DSS) Office during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodation(s) to a student until appropriate verification from DSS has been provided. For additional information, contact the Disability Support Office in Clark Student Center 168. Phone: (940) 397-4140.