



CSCI 532 01W Algorithm Design

Fall 2026

INSTRUCTOR INFORMATION

Instructor: Afsana Rahman Mou, PhD

Office Location: N/A

Office Hours: Monday & Wednesday 10:00 am to 11:30 am

Office Phone: N/A

Office Fax: N/A

University Email Address: afsana.mou@tamuc.edu

Preferred Form of Communication: Email with the course name as prefix

Communication Response Time: within 1-2 business day

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

Textbook:

1. Data Structures and Algorithms in Python, 1st Edition by Michael T. Goodrich, Roberto Tamassia, Michael H. Goldwasser, ISBN-10 : 1118290275

ISBN-13 : 978-1118290279

2. Algorithms in C++, Third Edition, Parts 1-4, Fundamentals, Data Structures, Sorting, Searching by Robert Sedgewick, Addison Wesley, ISBN 0-201-35088-2, 2009

Course contents will be shared on the course web page. A textbook is beneficial but not mandatory.

Software Required

It will be communicated on the course web page.

Optional Texts or Materials

Course materials should suffice in achieving the educational goals of this course.

The syllabus/schedule are subject to change.

Course Description

Algorithms, being the foundation of computing, allow us to create well-defined sequences of computational steps in order to solve computational problems – with stipulation on input/out relation, correctly and efficiently within a definite time frame. This course provides a comprehensive introduction to the modern study of computer algorithms. In particular, we will study the design and analysis of algorithms with special emphasis on correctness of algorithms, asymptotic notations, divide-and-conquer, dynamic programming, greedy algorithms, graph algorithms, shortest paths, and selected special topics

Prerequisites: CSCI 520

Student Learning Outcomes

After taking this course, students should be able to:

1. Design efficient algorithms for complex computational problems using advanced design paradigms.
2. Analyze the correctness and computational complexity of algorithmic solutions.
3. Implement and experimentally evaluate algorithms using modern programming tools.
4. Apply theoretical foundations to solve optimization, graph, and combinatorial problems.
5. Critically evaluate existing algorithms and propose improved or novel solutions.
6. Communicate technical findings effectively in written and oral forms.
7. Demonstrate ethical and professional responsibility in algorithmic decision-making and computational research.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

Knowledge of English grammar structure and writing skills.

Instructional Methods

D2L and lecture will be the method of instruction for the course. Please go to myLeo and find D2L in Apps. All course materials will be found in D2L.

Student Responsibilities or Tips for Success in the Course

Build a weekly habit of completing the lessons from the course materials on time every week. Please follow the rules for naming and posting assignments.

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GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

Weights of the assessments in the calculation of the final letter grade:

Participation	15%
Assignment	15%
Two Midterm Exams	30%
Final Exam	20%
Project Presentation	20%
TOTAL	100%

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:

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<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all coursework in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's house, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please get in touch with your instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, don't hesitate to get in touch with Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

Interaction with Instructor Statement

1. Students can meet after class hours
2. Discuss if anything is needed in the designated office hours
3. Email with the class name as prefix
4. Any additional needs for the students can be accommodated based on the request [if it is outside of office hours or outside of the class hours]

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

MAKEUP POLICY

There will be NO makeup exams/assignments in general. However, with prior notification and valid documents, makeup chances may be given to students under

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extreme circumstances, such as hospitalization, serious injury, death in the family, etc. No makeup allowed for other than exams and assignments.

COLLABORATION POLICY

Students are encouraged to discuss any of the assignments with each other, to the instructor, or to anyone else. However, any assistance must be limited to discussion of the problem and sketching general approaches to a solution. Each student must write out his or her solutions to the homework. Consulting another student's or group's solution is allowed for team research project but prohibited for exams and quizzes. These and any other form of collaboration on assignments constitute cheating. If you have any question about whether some activity would constitute cheating, please feel free to ask.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may require the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

TAMUC Attendance

For more information about the attendance policy, please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

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Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholarly work. For more details and the definition of academic dishonesty, see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)
[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or

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veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031 et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web URL: <http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses—report violations to the University Police Department at 903-886-5868 or 9-1-1.

A&M-Commerce Supports Students' Mental Health

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Department or Accrediting Agency Required Content

COURSE OUTLINE / CALENDAR (Tentative)

Week	Content	Remarks
Aug 20	Course Introduction	
Aug 25	Divide and Conquer Algorithm	
Sep 1	Divide and Conquer Algorithm	
Sep 8	Greedy Algorithms	
Sep 15	Greedy Algorithms	

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Sep 22	Midterm 1	
Sep 29	Graph Algorithms	
Oct 6	Graph Algorithms	Oct 8 -Fall break
Oct 13	Dynamic Programming	
Oct 20	Midterm 2	
Oct 27	Network Flow and Matching Algorithms	
Nov 3	Backtracking, Branch and Bound, and Randomized Algorithms	
Nov 10	Emerging Topics	
Nov 17	Presentation	
Nov 24	Presentation	Nov 26 -Thanksgiving
Dec 1	Summary	Last class -Dec 4
Dec 5		Final exam Week

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