



## **CSCI 520 Data Structures**

COURSE SYLLABUS: Spring 2023

### **INSTRUCTOR INFORMATION**

Instructor: Mutlu Mete, Ph.D, Associate Professor of Computer Science

Office Location: Jour 218

Office Hours: Online,

Office Phone: 903-886-5497

Office Fax: 903-886-5165

University Email Address: [Mutlu.Mete@tamuc.edu](mailto:Mutlu.Mete@tamuc.edu)

Preferred Form of Communication: Email

Communication Response Time: One business day

### **COURSE INFORMATION**

Materials – Textbooks, Readings, Supplementary Readings

Recommended Text: 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 Description**

The concept of abstract data structures forms the basis for the study of the data structures introduced in this course. Well known, basic data structures and the algorithms associated with them form the primary subject matter. Knowledge of these basic data structures will allow the student to create large scale programs which process meaningful amounts of data. Comparative efficiency analysis of the algorithms studied in the course will be introduced. The student will also become acquainted with formal methods for specifying abstract data types as well as algorithms. Prerequisites: CSCI 515.

**Student Learning Outcomes** (Should be measurable; observable; use action verbs)

1. To understand the concept of sparse matrices, stacks, and queues
2. To examine the differences between linear and linked representation of stacks, queues and ordered data
3. To understand and implement tree structures and compare various sorting algorithms

*The syllabus/schedule are subject to change.*

## **COURSE REQUIREMENTS**

### **Minimal Technical Skills Needed**

Experience in software development in C++.

### **Instructional Methods**

Online

### **Student Responsibilities or Tips for Success in the Course**

“All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.” (See Student’s Guide Handbook, Policies and Procedures, Conduct). Talking and other activities that distract/disturb others in the class would not be tolerated. Instructor holds the right to ask you leave the classroom anytime based on any of disturbing attitude. Each student should sign the sign-sheet if asked by instructor. Late student may not be allowed to participate the lecture.

## **GRADING**

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

### **GRADING POLICY:**

**A:** 100%- 90%

**B:** 89% - 80%

**C:** 79% - 70%

**D:** 69% - 60%

**F:** 59 % - 0%

### **Assessments**

Attendance	50%
Midterm(s)	20%
Assignments / Quizzes	10%
Final test	20%

## **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 technical requirements

LMS Requirements:

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

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LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<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](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work 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 home, 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 contact your Instructor.

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact 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**

You can come to my office (JOUR218) at any time during office hours regarding any question about any topic, including the questions about this course. I can share my industry and research experiences with you. Other than face-to-face and classroom communications, the primary mode of asynchronous communication is email. My email address is [mutlu.mete@tamuc.edu](mailto:mutlu.mete@tamuc.edu). Usually I email you using a tool in myLeoOnline, where I cannot see/edit your email address. The emails I send through the myLeoOnline go the email address you associated with myLeo system. It could be your @leo.tamuc.edu or other email address from other domains you selected (gmail, yahoo,

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outlook, etc.). In the first week of semester, I will email you and ensure that you receive this email to establish an electronic communication between you and me. I usually response students' emails in 24 hours. Please wait 24 hours to remind the issue again in the emails. My office number is 903 886 5497; however, the least preferred way of communication is phone calls because of untraceable nature of the actions. If need be, I can give you a phone call appointment to discuss a course issue.

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **Course Specific Procedures/Policies**

Credit will be given for ONLY those exams, programs, and/or projects turned in no later than the deadline as announced by the instructor of this class, unless prior arrangement has been made with the instructor. Late programs / projects / assignments can or cannot gain partial credit. Credit for late programs / projects / assignments will be announced with the description of it. Assignments and projects will be posted in university's myLeoOnline communication system. Detailed information will be provided by the instructor. Students also should turn in their assignments through myLeoOnline portal. Each student is responsible for the content/instructions of email communications.

During the online tests, you will not be able to move backwards through pages. It means once you answer a question, you will not able to see it again. Instructor can use plagiarism software during the tests.

### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for 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).  
<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](#).

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

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

### **Academic Integrity**

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

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

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

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.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

Gee Library- Room 162

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

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto: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 veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

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## 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.

## COURSE OUTLINE / CALENDAR

### Tentative Topics by Week

Week of	TOPIC
1/16/2023	Linear linked-lists
1/23/2023	Stacks
1/30/2023	Sparse matrices
2/6/2023	Bags-1
2/13/2023	Bags-2
2/20/2023	Queues
2/27/2023	Test
3/6/2023	Double LL
3/20/2023	Selection Sort
3/27/2023	Insertion Sort
4/3/2023	Merge sort
4/10/2023	Binary search tree
4/17/2023	2-3 Trees
4/24/2023	Hash tables
5/1/2023	Final Test

~~HAVE A VERY SUCCESSFUL SEMESTER~~

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