

Course number, Course CRN, COURSE TITLE
COSC 3343-110, 81090, Computer Architecture

Fall 2021

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

This is a 100% online course, and uses the A&M-Central Texas Canvas Learning Management System [https://tamuct.instructure.com/].

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Shuyang Gu

Office: FH 323

Phone:

Email: *preferred email Canvas Inbox*

Office Hours

I will be available primarily through email. If you need a conference please feel free to request through email. Due to the ongoing issues with COVID 19 and concern for your safety any meeting will be through webex meeting.

Student-instructor interaction

Barring any unforeseen circumstance, I will respond within 1 day. I can meet with students at the university by appointment.

WARRIOR SHIELD

Emergency Warning System for Texas A&M University-Central Texas

Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by [911Cellular](https://www.tamuct.edu/police/911cellular.html) [https://www.tamuct.edu/police/911cellular.html] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

COURSE INFORMATION

Course Overview and description

Hardware and software structures found in modern digital computers. Instruction set architecture, hardwired design of the processor, assembly language programming,

microprogramming, I/O and memory units, analysis of instruction usage, and hardware complexity. Prerequisite(s): COSC 2436 or CIS 3332 or CIS 3333 or permission of department chair.

Course Objective or Goal

This course provides an introduction on the nature and characteristics of modern-day computer systems.

Student Learning Outcomes

Students taking this course will be able to:

1. design and simulate components with discrete logic elements.
2. draw a schematic of a basic computer system and can provide an accurate description of each element on the schematic.
3. write a simple assembler language program and explain the function of each instruction.
4. describe the internal storage format of data/information.

Required Reading and Textbook(s)

“Computer Organization and Architecture” 10th ed Stallings

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

COURSE REQUIREMENTS

Examinations: There will be two major exams, one midterm and one final exam. The exams will be taken in class and will be timed. Each is worth 10 points. The midterm covers chapters 1-13 and the final covers chapters 14-23.

Quizzes: There will be 6 take-home quizzes. Each quiz will be worth 5 points. Quizzes are typically available on Canvas for 1 week. Each quiz is timed.

Assignments: There will be 6 take-home assignments. Each assignment will be worth 5 points. Assignments will typically be available on Canvas for 2 weeks. Multiple submissions are typically allowed. If an assignment has multiple files, you will be required to “zip” the files prior to submission via Canvas.

Item	Quantity	Points	Total	Percent
Exams	2	20.00	40.00	40%
Quizzes	6	5.00	25.00	12%
Assignments	6	5.00	30.00	48%

Grading Criteria Rubric and Conversion

Exams & Quizzes: Exams and quizzes will receive a numeric score (0-100) each. Scores will be converted to points and totaled as shown in the example below:

Quiz	Score	Percent	Max Points	Points
Quiz 1	95	95%	5.00	4.75
Quiz 2	100	100%	5.00	5.00
Quiz 3	80	80%	5.00	4.00
Quiz 4	85	85%	5.00	4.25
Quiz 5	90	90%	5.00	4.50
Quiz 6	75	75%	5.00	3.75

Conversion: Numeric scores are converted to letter grades as follows: *Note: I do not round up numeric scores*

Points Range	Letter Grade
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

Posting of Grades

Graded will be posted as soon as possible after the assignment due date. This should not exceed 2 weeks.

Grading Policies

- All the assignments must be submitted before the posted deadline in Canvas Course Website unless arrangements are made beforehand.
- Assignments are due by midnight on the date assigned in Canvas.
- Late assignments will lose 20% of the available points before being graded.
- Submission is not acceptable after 10 days past the due date
- Once an assignment has been graded, it will not be graded again.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

Week	Class	Date	DOW	DOW	Class Activity	What's Due
1	1	08/24/2021	Tue	Part 1: Intro	Intro to course/syllabus	
1	2	08/26/2021	Thu		Basic Concepts and Computer Evolution	Syllabus
2	3	08/31/2021	Tue		Performance Issues	
2	4	09/03/2021	Thu	Part 2: Arithmetic and Logic	Number Systems	Assignment 1
3	5	09/07/2021	Tue		Number Systems & Computer Arithmetic	
3	6	09/09/2021	Thu		Computer Arithmetic	Quiz 1
4	7	09/14/2021	Tue		Digital Logic	
4	8	09/16/2021	Thu	Part 3: The Computer System	A Top-Level View of Computer Function and Interconnection	
5	9	09/21/2021	Tue		Cache Memory and Internal Memo	Assignment 2
5	10	09/23/2021	Thu		Input/Output of Computer System	
6	11	09/28/2021	Tue			Quiz 2
6	12	09/30/2021	Thu	Part 4: The Central Processing Unit	Instruction Sets: Characteristics and Functions	
7	13	10/05/2021	Tue			
7	14	10/07/2021	Thu		Review	Assignment 3
8	15	10/12/2021	Tue		Midterm Exam (online)	
8	16	10/14/2021	Thu		Instruction Sets: Addressing Modes and Formats	
9	17	10/19/2021	Tue			Quiz 3
9	18	10/21/2021	Thu	Part 5: Assembly Programming	Chapter 13	
10	19	10/26/2021	Tue		Chapter 14	Assignment 4
10	20	10/28/2021	Thu		Chapter 14	
11	21	11/02/2021	Tue		Chapter 15	Quiz 4
11	22	11/04/2021	Thu		Chapter 15	
12	23	11/09/2021	Tue		Chapter 16	Assignment 5
12	24	11/11/2021	Thu		Chapter 16	
13	25	11/16/2021	Tue		Chapter 17	
13	26	11/18/2021	Thu		Chapter 18	Quiz 5
14	27	11/23/2021	Tue		Chapter 19	
14		11/25/2021	Thu	No class		Assignment 6
15	28	11/31/2021	Tue	Part 6: Parallel Organization	Chapter 20	
15	29	12/02/2021	Thu		Chapter 21	Quiz 6
16	30	12/07/2021	Tue	Tue	Review	
16	31	12/09/2021	Thu	Thu	Final Exam (online)	Final Exam

Important University Dates

<https://www.tamuct.edu/registrar/academic-calendar.html>

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements

This course will use the A&M-Central Texas Instructure Canvas learning management system. **We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.**

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select “Chat with Canvas Support,” submit a support request through “Report a Problem,” or call the Canvas support line: 1-844-757-0953.

For issues related to course content and requirements, contact your instructor.

Online Proctored Testing

A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in.

Other Technology Support

For log-in problems, students should contact Help Desk Central

24 hours a day, 7 days a week

Email: helpdesk@tamu.edu

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [<http://hdc.tamu.edu>]

Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web.

[<https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d->

46928168bc10&targetUrl=https%3A%2F%2Fdynamicforms.ngwebsolutions.com%2FSubmit%2FForm%2FStart%2F53b8369e-0502-4f36-be43-f02a4202f612].

Faculty cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Academic Integrity

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Office of Student Conduct. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more [information regarding the Student Conduct process](https://www.tamuct.edu/student-affairs/student-conduct.html), [https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may [submit a report](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0), [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations, please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information, please visit our [Access & Inclusion](https://tamuct.instructure.com/courses/717) Canvas page (log-in required) [https://tamuct.instructure.com/courses/717]

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/pregnant-) [https://www.tamuct.edu/student-affairs/pregnant-

and-parenting-students.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines](#) online, please visit the website [<http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf>].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, on a remote online basis. Visit the Academic Support Community in Canvas to view schedules and contact information. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Student success coaching is available online upon request.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, success coaching, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

University Writing Center

University Writing Center: Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University—Central Texas (A&M—Central Texas) is a free service open to all A&M—Central Texas students. For the Fall 2021 semester, the hours of operation are from 10:00 a.m.-5:00 p.m. Monday thru Thursday in Warrior Hall 416 (with online tutoring available every hour as well) with satellite hours available online only Monday thru Thursday from 6:00-9:00 p.m. and Saturday 12:00-3:00 p.m.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via WOnline at <https://tamuct.mywconline.com/>. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor by making an appointment via WOnline at <https://tamuct.mywconline.com/>. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 400,000 eBooks and 82,000 journals, in addition to the 96,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](http://tamuct.libguides.com/index) [<http://tamuct.libguides.com/index>].

OPTIONAL POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Wellness and Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors

we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [https://www.tamuct.edu/compliance/titleix.html].

Behavioral Intervention

Texas A&M University-Central Texas cares about the safety, health, and well-being of its students, faculty, staff, and community. If you are aware of individuals for whom you have a concern, please make a referral to the Behavioral Intervention Team. Referring your concern shows you care. You can complete the [referral](https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2) online [https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=2].

Anonymous referrals are accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/bit) website for more information [https://www.tamuct.edu/bit]. If a person's behavior poses an imminent threat to you or another, contact 911 or A&M-Central Texas University Police at 254-501-5800.

OTHER POLICIES

Copyright Notice

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.