

College of Business Administration

COSC 3343-110, CRN 80469, Computer Architecture

Monday/Wednesday 11:00 AM- 12: 15 PM

Fall 2017

Texas A&M University-Central Texas

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Abhijit K Nag, Ph.D.

Office: FH 323P

Phone: (254)519-5412

Email: aknag@tamuct.edu.

Office Hours:

Monday/Wednesday 10:00 am – 11:00 am (On campus). I am also available for students on an appointment basis. Send me an email (aknag@tamuct.edu) to schedule an appointment to meet.

Mode of instruction and course access:

This course meets face-to-face, with some supplemental readings made available online using the TAMUCT Canvas Learning Management System: [<https://tamuct.instructure.com>]. All announcement regarding homework assignments, class tests, exams will be posted in Canvas. Students are expected to access Canvas course page regularly to get any update regarding this course.

Student-instructor interaction:

Students are encouraged to send all course-related correspondence using Canvas email message. Students can meet me at regular office hour (mentioned above) or by appointment to discuss any course related issues.

911 Cellular:

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

911Cellular 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 911 Cellular through their myCT email account.

Connect at [911Cellular](https://portal.publicsafetycloud.net/Texas-AM-Central/alert-management) [<https://portal.publicsafetycloud.net/Texas-AM-Central/alert-management>] to change where you receive your alerts or to opt out. By staying enrolled in 911Cellular, 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.

Course Objective:

Student Learning Outcomes:

- Students are capable of designing and simulating components with discrete logic elements.
- Students are capable of drawing a schematic of a basic computer system and can provide an accurate description of each element on the schematic.
- Students are able to write a simple assembler language program, and can explain the function of each instruction.
- Students can describe the internal storage format of data/information.

Competency Goals Statements (certification or standards): None

Required Reading and Textbook(s):

Computer Organization and Architecture, 10th edition

Author: William Stallings

ISBN: 978-0134101613.

Optional Book for Raspberry Pi:

Raspberry Pi Assembly Language RASPBIAN Beginners: Hands on Guide

Author: Bruce Smith.

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.

Supplemental Material: The course textbook will be supplemented with other materials including handouts, oral presentations, software demonstration, PowerPoint presentations, etc.

COURSE REQUIREMENTS

Students are required to complete one midterm exam, one final exam, four class tests and five homework assignments/lab assignments. The topic of all exams and class tests will be declared in the class. Class attendance is required for this course.

Class Tests

There will be four class tests for this course. The class tests can be conducted in-class or online through Canvas course website. Each class test will be worth 50 points.

Exams

There will be one midterm and one final exam. The midterm exam will contain 200 points, and the final exam will contain 200 points. The final exam will not be comprehensive for this course.

The midterm and the final exam will be conducted in class.

Assignments

Five assignments (homework and lab assignments) will be given to the students. The due dates of these assignments will be posted in canvas. Each assignment will be worth 50 points.

Class participation

Attending the class lectures in mandatory for this course. Class attendance will be counted toward class participation marks. Total class participation is worth 100 points.

Grading Criteria Rubric and Conversion

The distribution of points in different activities and the grading scheme are mentioned below:

Student Activity	Quantity	Points	Total
Class Tests	4	50	200
Assignments	5	60	300
Midterm Exam	1	200	200
Final Exam	1	200	200
Class Participation		100	100
Total			1000

Point Range	Letter Grade
1000-900	A
899-800	B
799-700	C
699-600	D
599-0	F

Posting of Grades

All students’ grade will be posted on the Canvas Grade book, and students can monitor their progress in this course using Canvas Portal. Students can expect to see their grades within two weeks of the closing of class tests, exams, and assignments. Students are expected to visit Canvas course webpage regularly to get any update regarding this course.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

The Tentative course outline is mentioned below.

Week	Date	Topic	Due
1	8-28	Introduction to Course/ Syllabus	
	8-30	Introduction-Organization and Architecture	
2	9-04	NO CLASS	
	9-06	Computer Evolution and Performance	
3	9-11	Number Systems	
	9-13	Computer Arithmetic and Digital Logic	
4	9-18		Assignment 1
	9-20		Quiz 1

5	9-25	Top Level View of Computer Function and Interconnection	
	9-27		
6	10-02	Cache Memory and Internal Memory	
	10-04	Input and output	
7	10-09		Quiz 2
	10-11	Instruction Sets: Characteristics and Functions	Assignment 2
8	10-16	Midterm Exam	
	10-18	Instruction Sets: Characteristics and Functions	
9	10-23	Instruction Sets: Addressing Modes and Formats	
	10-25		
10	10-30	Assembly Language Programming Concepts	Quiz 3
	11-01		Assignment 3
11	11-06	Assembly Language Programming	
	11-08		
12	11-13	Reduced Instruction Set Computers	Assignment 4
	11-15		
13	11-20	Assembly Language Programming	
	11-22		
14	11-27		Quiz 4
	11-29		Assignment 5
15	12-04	Instruction-Level Parallelism and Superscalar Processors	
	12-06		
16	12-11	Final Exam Overview	
	12-13	Final Exam	In class

INSTRUCTOR POLICIES

Policies related to grading

- All the assignments must be submitted before the posted deadline in Canvas Course Website unless arrangements are made beforehand.
- Assignments more than 24 hours late are subject to 20% late penalty.

Instructor's Personal Statement

- The instructor reserves the right to modify the course syllabus during the semester for the benefit of the students.
- The instructor reserves the right to supplement materials presented in the text with additional course material that may help the students to understand the topic better.
- The instructor reserves the right to modify grading policy rubrics. Any Change to grading rubrics will be applied to current and possible future assignments.
- The instructor will not accept any assignment submission after the last day of classes in Fall 2017.

Important University Dates:

August 28, Add/Drop/Late Registration begins

August 30, Add/Drop/Late Registration ends, 16-week and 1st 8-week classes
September 1, Priority Deadline to Submit Graduation Application
September 4, Labor Day, CAMPUS CLOSED
September 5, Last day to drop 1st 8-week classes with no record
September 13, Last day to drop 16-week classes with no record
September 22, Last day to drop a 1st 8-week class with a Q or withdraw with a W
October 6, Deadline to submit graduation
October 20, Last day to withdraw from the University (1st 8-week classes WF)
October 23, Add/Drop/Late Registration begins, 2nd 8-week classes
October 26, Add/Drop/Late Registration ends, 2nd 8-week classes
October 30, Last day to drop 2nd 8-week classes with no record
November 10, Veteran's Day
November 10, Last day to drop with a Q or withdraw with a W (16-week classes)
November 17, Last day to drop a 2nd 8-week class with a Q or withdraw with a W
November 23-24, Thanksgiving, CAMPUS CLOSED
December 15, Last day to withdraw from the University (16-week and 2nd 8-week classes)
December 15, Last day to file for Degree Conferral (Registrar's Office)
December 15, Commencement (End of Fall Term)
December 25-January 1, WINTER BREAK

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements.

This course will use the A&M-Central Texas Instructure Canvas learning management system. Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com>].

Username: Your MyCT username (xx123 or everything before the "@" in your MyCT e-mail address)
Password: Your MyCT password

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.

For issues with **Canvas**, select "chat with Canvas support," submit a support request to Canvas Tier 1, or call the Canvas support line: 1-844-757-0953, links to all are found inside of Canvas using the "Help" link.

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

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Drop Policy.

If you discover that you need to drop this class, you must complete a [Drop Request Form](https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf) [https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf].

Professors cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the University Calendar for which the form must be completed, signed and returned. Once you return the signed 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. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student's academic performance and includes, but is not limited to, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student's work, collusion, and the abuse of resource materials. All academic misconduct concerns will be reported to the university's Office of Student Conduct. Ignorance of the university's standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

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 Department 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 Department of Access and Inclusion at (254) 501-5831. Any information you provide is private and confidential and will be treated as such.

For more information please visit our [Access & Inclusion](https://www.tamuct.edu/student-affairs/access-inclusion.html) webpage [https://www.tamuct.edu/student-affairs/access-inclusion.html].

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and 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. For more information, please visit <https://www.tamuct.departments/index.php>. 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>].

Tutoring.

Tutoring is available to all A&M-Central Texas students, both on-campus and online. On-campus subjects tutored include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors are available at the Tutoring Center in Warrior Hall, Suite 111.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, or any other question, contact Academic Support Programs at 254-519-5796, or by emailing Larry Davis at Imdavis@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log-in and receive FREE online tutoring and writing support. This tool provides tutoring in over forty subject areas. Access Tutor.com through Canvas.

The University Writing Center.

Located in 416 Warrior Hall, the University Writing Center (UWC) at Texas A&M University-Central Texas is a free workspace open to all TAMUCT students from 10am-5pm Monday-Thursday with satellite hours in the University Library on Mondays from 6:00-9:00pm. Students may arrange a one-on-one session with a trained and experienced writing tutor by visiting the UWC during normal operating hours (both half-hour and hour sessions are available) or by making an appointment via [WCOnline](#) [<https://tamuct.mywconline.com/>]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu to schedule an online tutoring session. 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 University Writing Center is here to help!

If you have any questions about the University Writing Center, please do not hesitate to contact Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu.

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 250,000 eBooks and 82,000 journals, in addition to the 72,000 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 twenty-four 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 on Skype 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](https://tamuct.libguides.com/) [https://tamuct.libguides.com/].

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 A&M-Central Texas, 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 Counseling Services (254-501-5956) located on the second floor of Warrior Hall.

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/departments/compliance/titleix.php) [https://www.tamuct.edu/departments/compliance/titleix.php].