

College of Business Administration

COSC 3343-110-CRN 80469 Computer Architecture

TR 4:00 pm -5:15 pm

Fall 2018

Texas A&M University-Central Texas

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Abhijit K Nag, Ph.D.

Office: FH 323P

Phone: (254) 519- 5437

Email: Canvas **Inbox**. If Canvas is not available, **email:** aknag@tamuct.edu

Office Hours:

Tuesday/Thursday 2:00 pm –3:00 pm (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, midterm/final 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 to 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 911Cellular 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. Prerequisite(s): COSC 2436 or CIS 3332 or CIS 3333 or permission of department chair.

Course Objective:

Student Learning Outcomes:

Students taking this course will be able to:

1. Students are capable of designing and simulate components with discrete logic elements.
2. Students are capable of drawing a schematic of a basic computer system and can provide an accurate description of each element on the schematic.
3. Students are able to write a simple assembler language program, and can explain the function of each instruction.
4. 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.

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.

In this course, for writing assembly language we may need Raspberry PI 3 B+ and 32 GB SDHC card to store Raspbian OS. More details will be discussed in the first week of the course.

COURSE REQUIREMENTS

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 mandatory 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 **60** 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. Both exams 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 **60** points.

Class Participation

Attending the class lectures is mandatory for this course. Class attendance will be counted toward class participation marks. Total class participation is worth **60** points.

Grading Criteria Rubric and Conversion

The distribution of points for various student activities and the grading scheme are mentioned below:

Student Activity	Quantity	Points	Total
Class Tests	4	60	240
Assignments	5	60	300
Midterm Exam	1	200	200
Final Exam	1	200	200
Class Participation		60	60
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. All assignments, class tests, midterm and final exam due dates will be announced in the class.

Week	Date	Topic	Due
1	8-28	Introduction to Course/ Syllabus	
	8-30	Introduction-Organization and Architecture	
2	9-04	Computer Evolution and Performance	
	9-06	Number Systems	
3	9-11	Introduction to Raspberry PI and required software (Introduction to Assembly language and IDE)	Assignment 1
	9-13		Class Test 1
4	9-18	Computer Arithmetic and Digital Logic	
	9-20		
5	9-25		
	9-27		Assignment 2
6	10-02	Top Level View of Computer Function and Interconnection	
	10-04		Class Test 2
7	10-09	Cache Memory and Internal Memory	
	10-11	Input and output of Computer system	
8	10-16		
	10-18		Midterm Exam
9	10-23	Instruction Sets: Characteristics and Functions	Assignment 3
	10-25		
10	10-30	Instruction Sets: Addressing Modes and Formats	
	11-01		
11	11-06	Assembly Language Programming Concepts	
	11-08		Class Test 3
12	11-13	Assembly Language Programming and practice sessions (Loops and branch)	Assignment 4
	11-15		
13	11-20		
	11-22		No Class
14	11-27	Assembly Language Programming (procedure call and array access)	Assignment 5
	11-29		Class Test 4
15	12-04	Instruction-Level Parallelism and Superscalar Processors	
	12-06		
16	12-11	Final Exam Overview and Final Exam	
	12-13		

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 **48** hours late are subject to **20%** late penalty.
- Requests for **Incomplete grades**:
 - Incompletes will only be given in emergency or other extreme circumstances. Any request for an incomplete grade in this course must be approved by the course

professor prior to December 01,2018. Where possible, requests should be submitted in written form with reasons and must include an address and/or telephone number where you may be contacted throughout the following semester.

- For a request of an incomplete grade to be considered, at least **70%** of the total course work (**700 points**) have to be completed.
- Finally, approval of an incomplete grade (**I**) is up to the department chair and college Dean.

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 submission of pending assignments after **December 12, 2018** for the **Fall 2018**.

Important University Dates:

August 27, 2018 Add, Drop, and Late Registration Begins for 16- and First 8-Week Classes. \$25 fee assessed for late registrants.

August 27, 2018 Classes Begin for Fall Semester

August 29, 2018 Deadline for Add, Drop, and Late Registration for 16- and First 8-Week Classes

September 3, 2018 Labor Day

September 4, 2018 *Deadline to Drop First 8-Week Classes with No Record*

September 12, 2018 *Deadline to drop 16-Week Classes with No Record*

October 1, 2018 Deadline for Teacher Education and Professional Certification Applications (i.e. Principal, Reading Specialist, etc.)

October 5, 2018 Deadline to Drop First 8-Week Classes with a Quit (Q) or Withdraw (W)

October 5, 2018 Deadline for Graduation Application for Ceremony Participation

October 5, 2018 Student End of Course Survey Opens (First 8-Week Classes)

October 12, 2018 Deadline for Fall Admissions Applications

October 15, 2018 Deadline for Clinical Teaching Applications

October 19, 2018 Classes End for First 8-Week Session

October 19, 2018 Deadline for Tuition and Fee Payments (Second 8-Week Classes)

October 19, 2018 Deadline to Withdraw from University for First 8-Week Classes (WF)

October 22, 2018 Add, Drop, and Late Registration Begins for Second 8-Week Classes. \$25 fee assessed for late registrants

October 22, 2018 Classes Begin for Second 8-Week Session

October 22, 2018 Student End of Course Survey Closes (First 8-Week Classes)

October 23, 2018 Deadline for Faculty Submission of First 8-Week Class Final Grades (due by 3pm)

October 24, 2018	Deadline for Add, Drop, and Late Registration for Second 8-Week Classes
October 29, 2018	Deadline to Drop Second 8-Week Classes with No Record
November 1, 2018	Deadline for GRE/GMAT Scores to Office of Graduate Studies
November 9, 2018	Deadline to Drop 16-Week Classes with a Quit (Q) or Withdraw (W)
November 12, 2018	Veterans Day (Observed) - No Class
November 16, 2018	Deadline for Final Committee-Edited Theses with Committee Approval Signatures to Office of Graduate Studies for Fall Semester
November 22, 2018	Thanksgiving
November 23, 2018	Thanksgiving
November 30, 2018	Deadline to Drop Second 8-Week Classes with a Quit (Q) or Withdraw (W)
December 1, 2018	Student End of Course Survey Opens (16- and Second 8-Week Classes)
December 14, 2018	Commencement Ceremony Bell County Expo Center 7:00 p.m.
December 14, 2018	Deadline for Applications for \$1,000 Tuition Rebate for Fall Graduation (5pm)
December 14, 2018	Deadline for Fall Degree Conferral Applications to the Registrar's Office. \$20 Late Application Fee.
December 14, 2018	Deadline to Withdraw from University for 16- and Second 8-Week Classes
December 14, 2018	Fall Semester Ends
December 17, 2018	Student End of Course Survey Closes (16- and Second 8-Week Classes)
December 18, 2018	Deadline for Faculty Submission of 16-Week and Second 8-Week Final Class Grades (due by 3pm)
December 18, 2018	Deadline for Theses to Clear Thesis Office for Fall Semester

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

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.

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 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 Academic 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 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 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) web page [https://www.tamuct.edu/student-affairs/access-inclusion.html].

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 the [Student Affairs](https://www.tamuct.edu/student-affairs/index.html) web page [https://www.tamuct.edu/student-affairs/index.html]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines online](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf), 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, both on-campus and online. Subjects tutored on campus 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 have any other question, contact Academic Support Programs at (254) 519-5796, or by emailing Dr. DeEadra Albert-Green at deeadra.albertgreen@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 FREE online tutoring and writing support. This tool provides tutoring in over 40 subject areas. Access Tutor.com through Canvas.

University Writing Center.

Located in Warrior Hall 416, the University Writing Center (UWC) at Texas A&M University–Central Texas (TAMUCT) is a free workspace open to all TAMUCT students from 10:00 a.m.-5:00 p.m. Monday thru Thursday with satellite hours in the University Library Monday thru Thursday from 6:00-9:00 p.m. This semester, the UWC is also offering online only hours from 12:00-3:00 p.m. on Saturdays.

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 [WOnline](https://tamuct.mywconline.com/) at [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu for any assistance needed with scheduling.

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!

If you have any questions about the UWC, 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 85,000 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 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](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 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/departments/compliance/titleix.php) [https://www.tamuct.edu/departments/compliance/titleix.php].