



# SYLLABUS

**Course title and number:** CIS 3348 – Network Arch. Design

**Meeting times:** TR 4:00 pm - 5:15 pm

**Instructor:** Marco A. Villarreal

**Telephone:** (Office) 254-519-5475, (Cell) 210-446-7171

**Office location:** FH 323H

**Office Hours:**

Monday & Wednesday 4:30 - 5:30

Tuesday & Thursday 3:00 - 4:00 p.m.

Also by appointment

**Department:** College of Business/CIS Department, FH 3.323

**Department Phone:** 254-519-5437

**Department Email:** [cobainfo@tamuct.edu](mailto:cobainfo@tamuct.edu)

**Department Fax:** 254-501-5825

**Term:** Fall 2017

**Meeting location:** FH 207

**Email:** Use Canvas First  
[drmvillarreal@tamuct.edu](mailto:drmvillarreal@tamuct.edu)

**Class Website:** Canvas: <https://tamuct.instructure.com> For questions and technical support on using Canvas, please contact the Canvas help desk at: (254)519-5466 or (979)845-8300.

**Student-instructor interaction:**

My preference is to have contact with students via Canvas first, then e-mail. Urgent or complicated issues, feel free to call me or come by my office. (Try to avoid texting, if possible)

**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>] 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

### 1.0 Course Overview and Description:

A study of network architecture, industry standards and communications protocols, the placement of networking devices and components, transmission media selection, logical and physical topologies, data transmission, and structured cabling for local area networks

(LANs) and wide area networks (WANs). Network designs will include required components and address services as specified in an industry specific Request for proposal (RFP). Application exercises will include preparing and presenting a design proposal in response to an RFP and installation, configuration, testing and troubleshooting of WAN/LAN wiring interface technologies.

## 2.0 Course Objective:

- Describe the network analysis, architecture, and design processes.
- Identify network analysis, architecture, and design process components.
- Describe the tactical and strategic significance of network analysis, architecture, and design.
- Describe the analysis requirements.
- Identify the network analysis process.
- Identify and characterize traffic flows.
- Discuss the relationship between and within network components.
- Demonstrate proficiency in IP addressing and routing.
- Describe network management and methodologies.
- Describe network performance.
- Identify mechanisms used to achieve optimal network performance.
- Identify the various security mechanisms required in networks.
- Determine the relationship between security mechanisms and network architecture.
- Conduct research
- Demonstrate proficiency in network design processes.

## 3.0 Required Reading and Textbook(s):

“Computer Networks: A Systems Approach”, 5th Ed.  
Larry L. Peterson and Bruce S. Davie  
ISBN: 978-0-12-385059-1

*Note: An electronic version of the book may be available.*

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, industry articles, research paper readings, case studies, Power Point presentations etc.

**Required Reading:** The student is expected to read and review all material presented in the assigned chapter prior to class.

## COURSE REQUIREMENTS

### 4.0 Course Requirements:

**Examinations:** There will be two exams and one final exam. Each exam is worth 100 points and the final is worth 100 points. The exam 1 covers chapters 1-4, exam 2 covers chapters 5-9, and the final is comprehensive covering chapters 1-9.

**Quizzes:** There will be 9 quizzes. Each quiz is worth 20 points. The exams will be available via Canvas.

**Assignments:** There will be 9 assignments. Each assignment will be worth 40 points. Assignments will be available on blackboard. You will use the simulation program to complete. The results will be uploaded into Canvas.

**Discussions:** There will be 9 group discussion questions that require a post of at least 150 words each. You will be graded on the content in the Discussion Forums. Each discussion question will be worth 15 points.

**Introduction:** Please introduce yourself in Canvas discussion. Follow the introduction directions.

### 5.0 Grading Criteria:

Required Activity	Quantity	Points	Total
Discussion	8	15	120
Quizzes	9	20	180
Assignments	10	40	400
Exams	2	100	200
Final – Comp.	1	100	100
Total			1,000

Point Range	Letter Grade
1,000-900	A
899-800	B
799-700	C
699-600	D
599-0	F

## CALENDARS AND COURSE OUTLINE

### 6.0 Complete Course Calendar:

### Important Dates

August 28, 2017 Monday First day of fall semester classes  
 August 28, 2017 Monday Add/Drop/Late Registration Begins  
 August 30, 2017 Wednesday Add/Drop/Late Registration Ends  
 September 4, 2017 Monday Labor Day - Holiday  
 September 13, 2017 Wednesday Last day to drop courses with no record (16-week classes)  
 October 6, 2017 Friday Deadline to submit graduation application for participation in the commencement ceremony  
 October 20, 2017 Friday Welcome Back Picnic  
 November 3, 2017 Friday Last day to drop a course with a “Q” or withdraw with a “W” (16-week classes)  
 November 10, 2017 Friday Veterans Day  
 November 23-24 November 23-24 Thanksgiving  
 December 6, 2017 Wednesday Last day to file for Degree Conferral (Registrar’s Office)  
 December 8, 2017 Friday Restricted Student Activities period  
 December 15, 2017 Friday Last day to withdraw from the university  
 December 15, 2017 Friday Fall Term Ends

### Tentative Course Schedule\*

Week	Date	Chapter(s)	Task Due Dates
1	8/29	Syllabus / Introduction	Introduction
	8/31	Chapter 01 - Foundation	Install simulation program
2	9/5	Chapter 01 - Continued	Ch.01 Quiz
	9/7	Chapter 02 - Getting Connected	
3	9/12	Chapter 02 - Continued	
	9/14	Chapter 02 - Continued	
4	9/19	Chapter 03 - Internetworking	Ch.02 Quiz
	9/21	Chapter 03 - Continued	Ch.02 Discussion Assignment 1 – p. 119
5	9/26	Chapter 03 - Continued	Ch.03 Quiz
	9/28	Chapter 04 - Advanced Internetworking	Ch.03 Discussion Assignment 3 – p. 170 Assignment 4 – p. 189 Assignment 5 – p. 203 Assignment 6 – p. 243 Assignment 7 – p. 252
6	10/3	Chapter 04 - Continued	
	10/5	Chapter 04 - Continued	
7	10/10	Review for Exam 1 (Ch.1-4)	Ch.04 Quiz
	10/12	<b>Exam 1 (Ch.1-4)</b>	Ch.04 Discussion Assignment 8 – p. 313 Assignment 9 – p. 369 <b>Exam 1</b>
8	10/17	Chapter 05 - End-to-End Protocols	

	10/19	Chapter 05 - Continued	
9	10/24	Chapter 05 - Continued	
	10/26	Chapter 06 - Congestion Control and Resource Allocation	
10	10/31	Chapter 06 - Continued	Ch.05 Quiz Ch.05 Discussion Assignment 10 – p. 396
	11/2	Chapter 06 - Continued	
11	11/7	Chapter 07 - End-to-End Data	Ch.06 Quiz Ch.06 Discussion Assignment 11 – p. 492
	11/9	Chapter 07 - Continued	
12	11/14	Chapter 08 - Network Security	Ch.07 Quiz Ch.07 Discussion
	11/16	Chapter 08 – Continued	
13	11/21	Chapter 09 - Applications	Ch.08 Quiz Ch.08 Discussion
	11/23	Thanksgiving – University Closed – No Class	
14	11/28	Chapter 09 - Continued	
	11/30	Chapter 09 - Continued	
15	12/5	Review Exam 2 (Ch.5-9)	Ch.09 Quiz Ch.09 Discussion
	12/7	Exam 2 (Ch. 5-9)	
16	12/12	Comprehensive Final Exam	Final Exam Due 12/15/17 Semester Ends 12/15/17
<b>*This syllabus and schedule are subject to change.</b>			

## UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

### 7.0 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.

### 8.0 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.

## **9.0 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 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](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].

## **10.0 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 [lmDavis@tamuct.edu](mailto:lmDavis@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.

## **11.0 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 [WOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto: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](mailto:bruce.bowles@tamuct.edu).

## **12.0 Library Services**

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/].

### **13.0 Any Instructor Policies Related to Absence, Grading, ETC**

1. Instructor reserves the right to modify the syllabus during the course of the semester for the benefit of the students.
2. Instructor reserves the right to supplement the material presented in the text with addition material that may benefit the students by either providing additional information or a different point of view.
3. Instructor expects that the students will act in a curious and professional manner in all interactions with other students and the instructor.
4. Instructor reserves the right to modify grading rubrics. Changes to grading rubrics are only made to current and possibly future assignments.
5. Instructor will not accept assignments after the last day of classes.