

Texas A&M University - Central Texas
CISK 348-110 Network Architecture Design
Monday-Wednesday 14:30-15:45

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Carl J. Mueller, Ph.D., CISSP
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Phone: 254-501-5845
Email: muellercj@tamuct.edu

Office Hours:

Location	Mon	Tues	Wed	Thurs	Fri
FH 323N	By appointment	13:00-16:30, and by appointment	By appointment	13:00-16:30, and by appointment	By Appointment
Blackboard Collaborate	By appointment	By appointment	By appointment	By appointment	By Appointment

Mode of instruction and course access:

This course is a face-to-face course, using Blackboard for quizzes and exams. Quizzes are taken at the students' discretion and maybe taken multiple times. Exam may be taken anytime during the 7-day window.

Student-instructor interaction:

My preference is to have contact with students via my University email or office either virtual or in person. I do not check the Blackboard email facility. If the question is too complex to answer in an email, I will suggest an office visit either to my physical office or to my virtual office.

My University Email is my preferred method of contact. From time to time, I will use the Blackboard messaging facility, but I usually respond to my University Email. Please identify the name of the course that you are taking in the subject line. This will help me address your issue promptly. For example:

To: muellercj@tamuct.edu
Subject: CISK478 *issue you want addressed*

UNILERT

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

UNILERT 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 UNILERT through their myCT email account. Connect at www.TAMUCT.edu/UNILERT to change where you receive your alerts or to opt out. By staying enrolled in UNILERT, 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:

2.1 Student Learning Outcomes

Students will demonstrate their:

- Knowledge of network architecture by creating and presenting a response to an RFP.
- Knowledge of routers by creating a functioning router using open-source components.
- Knowledge of firewalls by creating a functioning firewall.
- Mastery of network cables by creating a network cable and a crossover cable.
- Knowledge of WIFI networks by napping the coverage of a WIFI transmitter.

2.2 Competency Goals Statements (certification or standards)

Preparation for NET+ Examination

2.0 Required Reading and Textbook(s):

2.1 Textbook

Beasley, J. S., Piyasat, J., *Networking Essentials, 3rd*, Pearson

2.2 Recommended Tutorials

UNIX

Introduction <https://www.youtube.com/watch?v=ZrA24Nvc9DM>

File System- <https://www.youtube.com/watch?v=7RsS10bpLQg>

Virtual Box - <https://www.youtube.com/watch?v=nKPA1pdhLwY>

COURSE REQUIREMENTS

4.0 Course Requirements

Students are required to successfully complete 2 exams, 12 quizzes, 2 exercises, and 3 projects. All assignments are due by Sunday at 11:59PM for the week they are due. In addition to the assignments, all students must submit a signed Acknowledgement of Risk form attached to this document.

4.1 Exams

There are 2 exams for this course. The first occurs at the 8th week of class and the second occurs after the 15th week. Each exam is worth 150 points and is not cumulative. Student will have 1 hour outside of class to answer 150 questions. Student will have only one attempt to take this exam, unless there are verifiable technical issues.

4.2 Quizzes

There are 12 quizzes, worth 10 each, required for this class. One for each chapter covered. These quizzes are design to prepare the students to take the exams. Therefore, students may take the quizzes as many times as the wish, but must score 8/10 to take the next. Since the questions for the exam are from the test banks that make up these quizzes, students are encouraged to take the tests multiple times.

4.3 Exercises

The two exercises relate to working with issues in the physical aspects of a network. One exercise involves students creating a patch and cross-over cables. Another exercise requires the students to map a WIFI source using a spectrum analyzer.

4.4 Projects

In this class, there are 3 projects. Two involve creating the gateway elements (router and firewall) of a complex network. The third project is to respond to an RFP from an organization to construct a non-trivial network. Responding to the RFP is divided into two parts the first being a document describing the network, including the design of the wiring closets, and the second is presenting the key elements of the proposal in a 5 minute presentation.

5.0 Grading Criteria Rubric and Conversion

Required Activity	Number	Points	Total
Exams	2	150	300
Quizzes	12	10	120
Exercises	2	50	100
Projects	2	120	240
Proposal	1	140	140
Presentation	1	100	100
Total			1,000

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

6.0 Posting of Grades:

All student grades should be posted on the Blackboard Grade book and students should monitor their grading status through this tool. We will make every effort to have grades posted within 2 weeks of the closing of the assignment.

7.0. Complete Course Outline

Wk	Date	Reading	Assignment Due
1	1/19/2015	Syllabus Chapter 1 Introduction	Acknowledgement of Risk Quiz 1
2	1/26/2015		
3	2/2/2015	Ch 2 Physical Layer - Metallic	Exercise 1 Quiz 2
4	2/9/2015	Ch 3 Physical Layer - Fiber	Quiz 3
5	2/16/2015	Ch 4 Wireless	Exercise 2 Quiz 4
6	2/23/2015	Ch 5 Interconnecting	Quiz 5
7	3/2/2015	Ch 6 TCP/IP	Quiz 6
8	3/9/2015	Ch 7 Introduction to Routers	Quiz 7 Exam 1
	3/16/2015		Spring Break
9	3/23/2015	Ch 8 Introduction to Switches	Quiz 8
10	3/30/2015	Ch 9 Routing Protocols	Project 1 Quiz 9
11	4/6/2015	Ch 10 Internet Technologies	Quiz 10
12	4/13/2015	Ch 11 Troubleshooting	Quiz 11
13	4/20/2015	Ch 12 Network Security	Quiz 12 Project 2
14	4/27/2015		Project 3 Presentation
15	5/4/2015		Presentation
	5/7/2015		Last day to submit late assignments
16	5/11/2015		Exam 2

TECHNOLOGY REQUIREMENTS AND SUPPORT

8.0 Technology Requirements

This course will use the TAMUCT Blackboard Learn learning management system for class communications, content distribution, and assessments

Logon to <https://tamuct.blackboard.com> to access the course.

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

Initial password: Your MyCT password

For this course, you will need reliable and frequent access to a computer and to the Internet. You will also need a headset with a microphone or speakers and a microphone to be able to listen to online resources and conduct other activities in the course. If you do not have frequent and reliable access to a computer with Internet connection, please consider dropping this course or contact me (your email and phone number) to discuss your situation.

Blackboard supports the most common operating systems:

PC: Windows 8, Windows 7, Windows Vista

Mac: Mac OS X 10.9 (Mavericks), 10.8 (Mountain Lion), and 10.7 (Lion)

NOTE: Computers using Windows XP, Windows 8 RT and OS X 10.6 or lower are NO longer supported

Check browser and computer compatibility by following the "Browser Check" link on the TAMUCT Blackboard logon page. (<https://tamuct.blackboard.com>) This is a CRITICAL step as these settings are important for when you take an exam or submit an assignment.

Upon logging on to Blackboard Learn, you will see a link to Blackboard Student Orientation under My Courses tab. Click on that link and study the materials in this orientation course. The new Blackboard is a brand-new interface and you will have to come up to speed with it really quickly. This orientation course will help you get there. There is also a link to Blackboard Help from inside the course on the left-hand menu bar. The first week of the course includes activities and assignments that will help you get up to speed with navigation, sending and receiving messages and discussion posts, and submitting an assignment. Your ability to function within the Blackboard system will facilitate your success in this course.

Technology issues are not an excuse for missing a course requirement – make sure your computer is configured correctly and address issues well in advance of deadlines.

8.1 Technology Support

For technology issues, 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>

When calling for support please let your support technician know you are a TAMUCT student.

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

8.2 Technology Required for this course

1. MSWord is recommended but not required. Any word processor producing an .rtf, .doc, or .docx file is acceptable.
2. UNIX (LINUX) server available from <http://www.ubuntu.com/>
3. WireShark

COURSE AND UNIVERSITY PROCEDURES AND POLICIES

9.0 Drop Policy

If you discover that you need to drop this class, you must go to the Records Office and ask for the necessary paperwork. Professors **cannot** drop students; this is always the responsibility of the student. The record's office will provide a deadline for which the form must be returned, completed and signed. Once you return the signed form to the records office and wait 24 hours, you must go into WarriorWeb and confirm that you are no longer enrolled. Should you still be enrolled, FOLLOW-UP with the records office immediately? You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the deadline or fail to follow the procedure, you will receive an F in the course.

10.0 Academic Integrity

Texas A&M University - Central Texas expects all students to maintain high standards of honor in personal and scholarly conduct. Any deviation from this expectation may result in a minimum of a failing grade for the assignment and potentially a failing grade for the course. All academic dishonesty concerns will be reported to the university's Office of Student Conduct. Academic dishonesty 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. When in doubt on collaboration, citation, or any issue, please contact me before taking a course of action. More information can be found at <http://www.tamuct.edu/departments/studentconduct/academicintegrity.php>

11.0 Disability Support Services

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 an education that is barrier-free. The Office of Disability Support and Access is responsible for ensuring that students with a disability enjoy equal access to the University's programs, services, and activities. Some aspects of this course or the way the course is taught may present barriers to learning due to a disability. If you feel this is the case, please contact Disability Support and Access at (254) 501-5831 in Warrior Hall, Ste. 212. For more information, please visit their website at www.tamuct.edu/DisabilitySupport. Any information you provide is private and confidential and will be treated as such.

12.0 Tutoring

Tutoring is available to all TAMUCT students, both on-campus and online. Subjects tutored include Accounting, Finance, Statistics, Mathematics, and Writing. Tutors are available at the Tutoring Center in Warrior Hall, Room 111. Visit www.ct.tamus.edu/AcademicSupport and click "Tutoring Support" for tutor schedules and contact info. If you have questions, need to schedule a tutoring session, or if you're interested in becoming a tutor, contact Academic Support Programs at 254-501-5830 or by emailing tutoring@ct.tamus.edu.

Chat live with a tutor 24/7 for almost any subject on your computer! Tutor.com is an online tutoring platform that enables TAMUCT students to log-in and receive FREE online tutoring and writing support. This tool provides tutoring in Mathematics, Writing, Career Writing, Chemistry, Physics, Biology, Spanish, Calculus, and Statistics. To access Tutor.com, log into your Blackboard account and click "Online Tutoring."

13.0 Library Services

Library distance education services aims to make available quality assistance to A&M-Central Texas students seeking information sources remotely by providing digital reference, online information literacy tutorials, and digital research materials. Much of the TAMUCT collection is available instantly from home. This includes over half of the library's book collection, as well as approximately 25,000 electronic journals and 200 online databases. Library Distance Education Services are outlined and accessed at:

<http://www.tamuct.edu/departments/library/deservices.php>

Information literacy focuses on research skills which prepare individuals to live and work in an information-centered society. Librarians will work with students in the development of critical reasoning, ethical use of information, and the appropriate use of secondary research techniques. Help may include, but is not limited to: the exploration of information resources such as library collections, the identification of appropriate materials, and the execution of effective search strategies. Library Resources are outlined and accessed at:

<http://www.tamuct.edu/departments/library/index.php>

14.0 Instructor policies related to absence, grading, etc.

- Students are expected to come to class, but it is understood that the students are responsible adults and can make their own decisions as to where they need to be.
- Plagiarism is not permitted in any form (copying from another student, purchasing an assignment, copying parts of another work without attribution, etc.). Students found to plagiarize an assignment will be given a zero for that assignment. Plagiarized assignments may be referred to student affairs at the discretion of the instructor.
- Students earn their grades based on the instructor's evaluation of each assignment submitted. Therefore, asking the instructor for a higher grade than the one earned is not appropriate.
- Should a student feel that an assignment is incorrectly evaluated, they must contact the instructor with the reasons why the assignment deserves a higher evaluation within 2 weeks of the grading of the assignment.
- All assignments must be submitted before the beginning of first day of final exams (7 May 2015), unless arrangements are made beforehand.
- Assignments more than 24hrs late are subject to a 30% late penalty.
- Programs that do not compile and/or execute will receive a 0 for that assignment.

15.0 Instructor's Personal Statement

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 additional 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 courteous 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.

Grading Rubrics

Individual Presentation

This rubric outlines the grading criteria for an individual presentation. Note that the criteria represent a plan for grading.

	%	1 (0-17)	2 (18-19)	3 (20-22)	4 (23-25)	Score
Organization	25	information is not ordered	information is partially ordered	information is logically ordered	information is logically ordered and interesting	
Subject Knowledge	25	no grasp of information; unable to answer questions	poor grasp of information, able to answer only rudimentary questions	partial grasp of information, able to answer expected questions	full knowledge, can elaborate on answers to questions	
Visuals	25	visual materials are lacking, irrelevant, or have many errors	visual materials are partially relevant and have some errors	visual materials are relevant and have few errors	Visual materials reinforce presentation and have no errors.	
Delivery	25	no eye contact, reads notes, voice heard by small part of audience	some eye contact, reads most of the report, voice heard by part of the audience	fair eye contact, some referral to notes, voice heard by most of the audience	good eye contact, little referral to notes, clear voice heard by entire audience	
Deductions (i.e. longer than 5 min)						
Total						0

Grading Rubrics

Proposal

This rubric outlines the grading criteria for this document. Note that the criteria represent a plan for grading. Change is possible, especially given the dynamic nature of this course. Any change will be applied consistently for the entire class.

Achievement	%	Minimal	Limited	Satisfactory	Exemplary	Score
Content		Section(s) missing, not useful, inconsistent, or wrong.	Serious omissions or problems with content.	Some problems with completeness or details of content	Provides all relevant information correctly and with appropriate detail	
Front Matter	10					
Content	70					
Grammar and Spelling	10	Many serious mistakes in grammar or spelling	Several large issues or many smaller ones	Some small grammar or spelling issues	Grammar, punctuation, and spelling all correct	
					Ok	
Expression and Tone	10	Very difficult to understand	Hard to follow or poor word choices	Mostly easy to read and understand	Clear and concise. A pleasure to read	
					Ok	
Deductions (i.e. late wrong format)						
Total	100					0



Acknowledgment of Risk

With my signature on this document, I acknowledge that my instructor

(_____) has informed me that the use of the tools and

techniques taught in _____,

could, if used in an unsecured environment, lead to disciplinary action that includes

expulsion or criminal prosecution. I further understand that failure to sign this

document will result in me being asked to leave the class.

Signature

Date

Print Name

Student Id.

The following is a list of policies regulating the use of University computing facilities.

29.01.02.D1	Licensed Commercial Software	PDF
29.01.03.D0.01	Security of Electronic Information Resources	PDF
29.01.99.D1.01	Complaint Procedures for Electronic Information Resources	PDF
29.01.99.D1.02	Responsible Use of Information Resources and Facilities	PDF
29.01.99.D1.03	Incidental Computer Use	PDF