Instructor Information

Instructor(s):
Habeeb Olufowobi, Ph.D.

Office Number:
ERB 560

Office Telephone Number:
817-272-3785

Email Address:
Habeeb.olufowobi@uta.edu

Faculty Profile:
https://mentis.uta.edu/explore/profile/habeeb-olufowobi

Office Hours:
Monday and Wednesday 2:00 - 3:30 pm (or by appointment via email w/ at least 24 hours notice)

Course Information

Section Information:
CSE 5344-003

Time and Place of Class Meetings:
5:30 - 6:50, MW.
Online Synchronous

Description of Course Content:

Design and analysis of computer networks. Emphasis on the OSI architecture but discusses other schemes (e.g., ARPAnet). Data link control, local networks, protocols/architectures, network access protocols, transport protocols, internetworking, and ISDN.

Student Learning Outcomes:

This course aims at introducing the students to modern computer networks, in particular the Internet. We will discuss basic network architecture, design principles, different protocols, and
applications. We will study the application, transport, networking, and link layers. We will also cover basic topics of network security and management. Students are expected to perform various projects, including network programming, to obtain hands on knowledge.

Prerequisite:

CSE 3320 – Operating Systems

Required Textbooks and Other Materials:

- “Computer Networking: A Top-Down Approach”, 7/ed, Kurose and Ross. This text may be legally procured online at no cost.
- Equipment to facilitate the use of Respondus LockDown Browser and Respondus Monitor.
  - Computer with Compatible Operating System
    - Windows 7, 8, or 10
    - MacOS 10.12 or higher
  - Compatible webcam

Communication:

- Course updates will be published via Canvas.
- Students will use their University-provided e-mail to communicate with the instructor outside office hours.
- Students will not use Canvas Messenger to communicate with the instructor.
- Students will not use Microsoft Teams to communicate with the instructor outside office hours.
- The instructor will not respond to e-mails received after 4:00pm CST on a weekday.
- The instructor will not respond to e-mails received after 4:00pm CST on Friday until the following Monday.
- The instructor will not answer questions about course content while an exam is active.

Grading:

- Grade Components
  - 10% Quizzes
  - 15% Assignments
  - 30% Project
  - 40% Test
  - 5% Class participation

Projects and assignments will be graded on accuracy (satisfaction of requirements), clarification (comment, documentation and organization) and efficiency (execution conciseness). In general, a program that cannot compile, or crashes or stalls as soon as it
starts will receive zero points. To avoid these errors, you are strongly recommended to fully test your programs before submission.

Documentation is a major part of each project. Make sure you leave enough time to write it. Detailed justification must accompany the answers for written assignments.

• Grade Distribution
  o A: 90 -100
  o B: 80-89
  o C: 70-79
  o D: 60-69,
  o F: less than 60.
  Note, grades will not be curved in general and adjustable at the instructor’s discretion.

Make-up Exams:
The university catalog lists under student responsibilities the following kinds of absences.
  • University authorized absences
  • Absence for military service
  • Observance of religious holy days

See the university catalog for details (http://catalog.uta.edu/academicregulations/studentresponsibility/#attendancetext).

No make-up exams will be given unless there is a written doctor’s excuse. In the event that such an excuse is accepted, the deadline will be extended the number of days specified in the excuse.

No extra credit should be requested for in general. Extra credit opportunities will be at the instructor’s discretion and provided to the entire class, not individuals. Students are encouraged to check with the instructor for their progress in the course following each exam or major assignment/project.

Grade Grievances:
Re-grading request must be sent within a week of the date the graded material was returned to the class. Requests for re-grading or any questions regarding graded material will not be accepted after that time. Any graded material that is not picked up within two weeks after distribution will be discarded.

Course Schedule

Topics to be covered

Course Topics: This course will cover the following topics:
  1. Protocol layers and service models. OSI and Internet protocols.
  2. What is the Internet. Concepts of delay, security, and Quality of Service (QoS).
3. Application layer protocols and client-server model.
4. Sockets programming in C (client-server and web server programs).
5. Reliable data transfer. Stop-and-Go evaluation. TCP and UDP semantics and syntax.
10. Link layer. Error detection. Multiple access protocols. IEEE 802.3 Ethernet.
13. Network management including SNMP. Network troubleshooting. Hot topics such as SDN, NDN, and IoT.
14. Hot topics such as SDN, NDN, and IoT (continued). Course wrap-up.

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.

1.1. **Course Schedule**

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<th>Week</th>
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<th>Topic</th>
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<td>Monday 01/20/2021</td>
<td>Introduction</td>
<td>Introduction The Internet</td>
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<td>2</td>
<td>Monday 01/25/2021</td>
<td>Introduction</td>
<td>Protocol layers and service models.</td>
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<td>Weds. 01/27/2021</td>
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<td>Monday 02/01/2021</td>
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<td>Application layer architectures</td>
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<td>Weds. 02/03/2021</td>
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<td>Internet transport service model</td>
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<td>4</td>
<td>Monday 02/08/2021</td>
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<td>Socket programming</td>
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<td></td>
<td>Weds.</td>
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<td>Application service requirements</td>
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<td>Week</td>
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<td>Topic</td>
<td>Notes</td>
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<td>02/10/2021</td>
<td><strong>Transport Layer</strong></td>
<td>Transport-layer services</td>
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<td>Monday 02/15/2021</td>
<td>Reliability data transfer.</td>
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<td>Weds. 02/17/2021</td>
<td>Principles of congestion control.</td>
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<td>02/17/2021</td>
<td><strong>Network Data Plane</strong></td>
<td>Network layer service models</td>
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<td>Monday 02/22/2021</td>
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<td>Weds. 02/24/2021</td>
<td>Principles of routing</td>
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<td>IP semantics and syntax</td>
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<td>03/01/2021</td>
<td><strong>Network Control Plane</strong></td>
<td>Network-layer services and protocols</td>
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<td>Monday 03/01/2021</td>
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<td>03/08/2021</td>
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<td>Network management, configuration</td>
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<td>Wednesday 03/10/2021</td>
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<td>03/22/2021</td>
<td><strong>Link Layer and LANs</strong></td>
<td>Error detection.</td>
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<td>Weds. 03/24/2021</td>
<td>Multiple access protocols. IEEE 802.3 Ethernet.</td>
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<td>03/29/2021</td>
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<td>LAN</td>
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<td>Week</td>
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<td>Wireless and Mobile Networks</td>
<td>Wireless and mobile networks.</td>
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<td>Monday 04/05/2021</td>
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<td>Weds. 04/07/2021</td>
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<td>Overview of threats</td>
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<td>Monday 04/12/2021</td>
<td>Network Security</td>
<td>Cryptography, authentication, and firewalls.</td>
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<td>Monday 04/19/2021</td>
<td>Hot Topics</td>
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<td>Weds. 04/21/2021</td>
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<td>Review</td>
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<td>Review for comprehensive final exam</td>
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<td>Final Exam</td>
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**Institution Information**

UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the [Institutional Information](http://www.uta.edu/provost/administrative-forms/course-syllabus/index.php) page which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
Attendance:
At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator of student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established the following attendance policy. Since this is a 3000-level course, I do not plan to take attendance directly. But attendance contributes indirectly to the final grade. Specifically, final grade components include in-class quizzes, class participation such as asking and answering questions during class, and in-class project presentations.

However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report must the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Canvas. This date is reported to the Department of Education for federal financial aid recipients.

Emergency Exit Procedures:
Should we experience an emergency event that requires evacuation of the building, students should exit the room and move toward the nearest exit, which is located to the left and down one flight of stairs if you exit through the left door. If you exit through the right door the nearest exit is located to the right, followed by a left turn, and down one flight of the stairs. When exiting the building during an emergency, do not take an elevator but use the stairwells instead. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Success Programs:
UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring by appointment, drop-in tutoring, etutoring, supplemental instruction, mentoring (time management, study skills, etc.), success coaching, TRIO Student Support Services, and student success workshops. For additional information, please email resources@uta.edu, or view the Maverick Resources website.

The IDEAS Center (https://www.uta.edu/ideas/) (2nd Floor of Central Library) offers free tutoring and mentoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

The English Writing Center (411LIBR):
The Writing Center offers free tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at the Writing Center (https://uta.mywconline.com). Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see Writing Center: OWL for detailed information on all our programs and services.

The Library’s 2nd floor Academic Plaza (http://library.uta.edu/academic-plaza) offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation.

Librarian to Contact:
Each academic unit has access to Librarians by Academic Subject that can assist students with research projects, tutorials on plagiarism and citation references as well as support with databases and course reserves.

Emergency Phone Numbers

In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381