Listed below are the course outcomes for CENG 4753 Computer Networks. These outcomes will be assessed by giving quizzes throughout the semester and calculating the average score. In addition, examples of the quizzes with the highest, lowest, and average scores will be copied.

1. Computer Networks and the Internet
   1.1. Understand the difference between packet and circuit switching
   1.2. Understand the difference between datagram and virtual circuit packet switching
   1.3. Describe the function of a router
   1.4. Understand the RFC process
   1.5. Understand the difference between connection-oriented and connectionless communications
   1.6. Name the connection-oriented protocol used in the Internet
   1.7. Name the connectionless protocol used in the Internet
   1.8. Define a protocol
   1.9. Understand the client/server model
   1.10. Understand the difference between transmission delay and propagation delay

2. Application Layer
   2.1. Name the two pieces of information necessary for a client to interact with an application on a remote server
   2.2. Describe the function of HTTP
   2.3. Describe the function of a cookie in HTTP
   2.4. Describe the function of FTP
   2.5. Understand the four major protocols used for e-mail: SMTP, POP3, IMAP, and HTTP
   2.6. Understand the difference between in-band and out-of-band control channels
   2.7. Describe the difference between stateless and state-oriented protocols
   2.8. Describe the two types of DNS queries
   2.9. Describe the main DNS resource records and their use
   2.10. Understand socket programming

3. Transport Layer
   3.1. Understand the function of the transport layer
   3.2. Describe multiplexing and demultiplexing
   3.3. Describe the service UDP provides
   3.4. Be able to calculate the checksum used in UDP
   3.5. Understand the principles of reliable data transfer
   3.6. Describe go-back-N
   3.7. Describe selective repeat
3.8. Describe how TCP implements reliable communication over an unreliable channel
3.9. Understand the use of sequence numbers
3.10. Understand the difference between congestion control and flow control

4. Network Layer
4.1. Name the layers that a router must have
4.2. Describe a datagram packet network
4.3. Describe a virtual circuit packet network
4.4. Describe head-of-line blocking
4.5. Understand NAT
4.6. Understand IP version 4 and IP version 6
4.7. CIDR, subnets, and network masks
4.8. Describe link state routing algorithms
4.9. Describe distance vector routing algorithms
4.10. Understand the differences between RIP, OSPF, and BGF routing

5. Link Layer and Local Area Networks
5.1. Be able to calculate parity
5.2. Understand the calculation of CRCs
5.3. Understand slotted aloha, aloha, CSMA, and CSMA/CD
5.4. Describe ARP
5.5. Describe DHCP
5.6. Explain how Ethernet works
5.7. Describe the difference between a hub, bridge, switch, and router
5.8. Describe MPLS
5.9. Understand IEEE 802.11 wireless LANs
5.10. Describe mobile IP