CSCE 516: Computer Networks

1. Course number and name: CSCE 516: Computer Networks

2. Credit: 3-hrs; Contact: 3 lecture periods of 50 minutes or 2 periods of 75 minutes per week

3. Instructor: Nelakuditi

4. Textbook: Larry L. Peterson and Bruce S. Davie, *Computer Networks: A Systems Approach*, 4th edition, Morgan Kaufmann, March 2007.

5. Specific course information
   a. Catalog description: Structure, design, and analysis of computer networks; ISO/OSI network architecture.
   b. Prerequisites: STAT 509
   c. CSCE 5xx elective

6. Specific goals for the course
   a. Specific outcomes of instruction are that students will be able to:
      1. Demonstrate an understanding of IP based forwarding and routing in the Internet
      2. Discuss various actions by TCP for controlling congestion in the Internet
      3. Describe the operations of a station in accessing a wired LAN using Ethernet
      4. Explain how protocols for wireless and mobile networks differ from wired networks
      5. Evaluate the performance of a protocol and report the findings
   b. As an elective this course cannot be counted upon to contribute to the attainment of any student outcome.

7. Topics covered and approximate weight (14 weeks, 4 hours/week, 56 hours total)
   1. IP Addressing and Forwarding
   2. Translating Addresses
   3. Link State and Distance Vector Routing
   4. Policy based Routing
   5. Link Layer and Local Area Networks
   6. Multicast Routing
   7. Wireless and Mobile Networks
   8. Transport Layer Protocols
   9. TCP Congestion Control
   10. Web Content Delivery