ENEE 756: Computer Networks

- Credit Hours: 3
- Course Level: Graduate
- Instructor: Dr. Charles B. Silio
- Number of Lecture Hours: Thirty 75-minute classes plus 120 minute final exam

Course Prerequisites:

ENEE 324 or equivalent; and ENEE 646.

Course Objectives:

To study the principles, design, evaluation, and use of computer networks, especially local area networks and high speed ring networks.

Course Description:

This course will cover various aspects of computer networks including the ISO open systems reference model, protocol layers, channel coding, data communication concepts, local area network (LAN) topologies and transmission media, basic queueing theory applied to LAN performance modeling, LAN access techniques, network interconnections, network reliability, and network security. Recent performance analysis work in the area of token and circuit-switched rings and reliability of fiber optic ring networks will also be covered.

Topical Outline:

- Layered Network Architecture (OSI Model)
- Physical Layer, digital communication, coding modulation, and media
- Data Link Layer and medium access control protocols
- Network Layer, Virtual Circuits and Datagrams, and routing
- Local Area Networks (IEEE 802 and FDDI)
- Ring networks versus CSMA/CD, performance models and comparisons
- Transport Layer and TCP
- Internetworking and IP
- Higher Layer
- Network Reliability
- Network Security

Course Requirements:
Homeworks: Policy announced by instructor.
Exams: One midterm exam and a final exam.
Term paper/project: Each student will choose a topic in networking, will research literature on the topic and write and present a term paper on the subject.
Computer Facilities: General purpose computational support for homework.

References:


**Last Updated:**