Undergraduate Record Description:
An advanced course on computer networks on the technologies and protocols of the Internet. Topics include the design principles of the Internet protocols, including TCP/IP, the Domain Name System, routing protocols, and network management protocols. A set of self-guided laboratory exercises are part of this course. (3 Credits)

Prerequisite:
CS 457: Computer Networks with a grade of C- or better

Course Objectives: (concrete and measurable relatable to degree program outcomes.)

1. Comprehend fundamental design principles of Internet Protocols, IP addressing, and IP networks, including routing and forwarding.

2. Comprehend advanced Internet protocol technologies including network management, domain name system, network address translation, DHCP and multicasting.

3. Apply understanding of Internet protocols by analyzing, evaluating, and improving actual network configurations of IP routers, switches and hosts.

Course Objectives and Program Outcomes Map: (list the degree program outcomes to which the course is intended to contribute most significantly. These will be addressed in the End-of-Course Memo)

Course Objectives 1&2: CpE Program Outcomes: 2.e
Course Objectives 1&2: CS Program Outcomes: Life-long learning
Course Objectives 1&2: EE Program Outcomes: 2.f

Course Objectives: achieved at the "In Depth" level

Outcome 2.e. an understanding of computer and networked system organization and architecture and knowledge of recent advances, current practices and trends in computer systems.
Outcome 2.f. specialized knowledge in topical areas of electrical engineering and computer science.

Familiarity – some work in this area; maybe related to a coursework problem or an important theme in the class; simulation techniques in circuits class, for example.
In Depth – a major area of emphasis in the class, possibly covered in coursework, labs, exams. For example, Program Outcome m (advanced mathematics) may be an important in depth objective in a signals or fields class.

Assessment Scheme
What form will the student work take to cover the Outcomes listed above.
Ten laboratory assignments, two mid-term examinations + one final examination