CSCE 416 - Introduction to Computer Networks
Credit Hours: 3 hours
Contact Hours: 3 lecture hours
Instructor: Dr. Nelakuditi


Bulletin Description: Concepts and components of computer networks and the Internet; network applications; network protocol stack.

Prerequisites: CSEC 311

Required Course in CE, CIS, and CS programs
Learning Outcomes: Students will be able to:
1. Demonstrate an understanding of the elements of a protocol and the concept of layering.
2. Describe how to control access to a shared channel by multiple stations.
3. Explain the concepts of error control, flow control and congestion control.
4. Illustrate how a packet is routed over the Internet.
5. Design, build and describe a client-server application.

Student (Program) Outcomes addressed by course (Detailed mappings of these course outcomes to the Student Outcomes of the programs are in the detailed syllabus and the Assessment plan.)

<table>
<thead>
<tr>
<th>Student Program Outcomes</th>
<th>SOs supported</th>
<th>SOs Moderately supported</th>
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</thead>
<tbody>
<tr>
<td>Computer Engineering</td>
<td>a, b, c, e, g,</td>
<td>i, k</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>a, b, c, f,</td>
<td>i</td>
</tr>
<tr>
<td>Computer Science</td>
<td>a, b, c, f, CS-j, CS-k</td>
<td>i</td>
</tr>
</tbody>
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Topics covered:
1. Layered network architectures
2. Network programming interfaces (e.g., sockets)
3. Transport and data link protocols
4. Physical media
5. Local area networks
6. Network routing protocols