CSCE 416 - Introduction to Computer Networks

- **Credit Hours:** 3 hours
- **Contact Hours:** 3 lecture hours
- **Instructor:** Dr. Srihari Nelakuditi
- **Bulletin Description:** Concepts and components of computer networks and the Internet; network applications; network protocol stack.
- **Prerequisites:** CSCE 146
- **Required Course in CE, CIS, and CS**
- **Course 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 Outcomes addressed by course**

<table>
<thead>
<tr>
<th>Program</th>
<th>Student Outcomes Addressed</th>
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<tbody>
<tr>
<td>Computer Engineering</td>
<td>1, 2</td>
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<tr>
<td>Computer Information Systems</td>
<td>1, 2</td>
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<tr>
<td>Computer Science</td>
<td>1, 2</td>
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</tbody>
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- **Topics covered**
  - Layered network architectures
  - Network programming interfaces (e.g., sockets)
  - Transport and data link protocols
  - Physical media
  - Local area networks
  - Network routing protocols
  - Network security