CIS 8050:  
Business Telecommunications and Networks

PREREQUISITES:
CSP 1-8;

CATALOG DESCRIPTION:
This course provides a broad introduction to network technologies, architectures, services and management necessary to meet business needs; including network and internetwork designs, applications and telecom industry.

TEXT:
1. Slides, notes, and papers available from course website  
(http://www.cis.gsu.edu/uvarshney/course8050.htm)

USEFUL REFERENCES:
1. Data Communications, Stallings, Prentice Hall (latest edition)

COURSE ORGANIZATION:
The course is organized to cover fundamentals, high-speed access, LANs, wireless networking, WANs, network design, inter-networking, and network management and security.

ATTENDANCE & CLASS PARTICIPATION:
You are expected to attend the class regularly. My experience has always been that students learn the most when they come to the class everyday and interact with the instructor and other students. 5% of your grade will be based on class participation.

3 factors leading to a higher score

• Positive attitude in the class
• Advance reading of the material to be covered in the class
• Attentiveness in the class to learn new material
**3 factors leading to a lower score**

- Unjustified and frequent absences from the class
- Disruptive behavior (including talking to other students during a lecture)
- Cheating

**COURSE OBJECTIVES:**

After completing this course successfully, a student will have:

- Design and analyze network technologies to meet enterprise needs.
- Identify challenges and issues that are part of telecom industry
- Speak telecom “language” within the industry

**LECTURE PLAN (subject to change as needed)**

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topics</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction (data communications, terminology, TCP/IP model)</td>
<td>Ch. 1</td>
</tr>
<tr>
<td>2</td>
<td>High-speed Access</td>
<td>Ch. 4</td>
</tr>
<tr>
<td>3</td>
<td>Local Area Networks: Part I (Ethernet and its versions)</td>
<td>Ch. 13</td>
</tr>
<tr>
<td>4</td>
<td>Local Area Networks: Part II (Token Ring, FDDI, ATM LANs)</td>
<td>Ch. 14</td>
</tr>
<tr>
<td>5</td>
<td>Wireless and Mobile Networks</td>
<td>Ch. 4, paper 1 (mobile and wireless)</td>
</tr>
<tr>
<td>6</td>
<td>Wide Area Networks: Part I (circuit switching)</td>
<td>Ch. 8 and Ch. 11</td>
</tr>
<tr>
<td></td>
<td>Midterm</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Wide Area Networks: Part II (Packet switching)</td>
<td>Ch. 8 and Ch. 11</td>
</tr>
<tr>
<td>9</td>
<td>Network modeling</td>
<td>Notes (website)</td>
</tr>
<tr>
<td>10</td>
<td>Network traffic and design</td>
<td>Notes (website)</td>
</tr>
<tr>
<td>11</td>
<td>Inter-networking</td>
<td>Ch. 15</td>
</tr>
<tr>
<td>12</td>
<td>TCP/IP protocols</td>
<td>Ch. 16</td>
</tr>
<tr>
<td>13</td>
<td>IP version 6, Voice over IP</td>
<td>Ch. 16</td>
</tr>
<tr>
<td>14</td>
<td>Network Management, Security and Future</td>
<td>Ch. 18</td>
</tr>
</tbody>
</table>

**GRADING:** the following point allocation will be used:

---
Quiz 1 (Sept. 14) 40 points (10%)
Mid-term Exam (Oct. 12) 100 points (25%)
Quiz 2 (Nov. 9)  40 points (10%)
Final Exam (Dec. 14)  100 points (25%)
Assignments/Projects:  100 points (25%)
Class participation:  20 points (5%)
---------------------------------                       --------------------------------------
Total                                                               400 points (100%)

Late Work:

Assignments must be turned in at the beginning of class on the date due. Each additional working day will cause a 25% reduction of grade as the late penalty.

Assignments:

1. All assignments are to be typed, carefully written and edited.
2. All assignments must be stapled in the upper left-hand corner.
3. All assignments must reflect your individual efforts only. Any copying, cheating, or plagiarism will not be tolerated. The departmental and college policies for cheating will be followed for anyone caught in such offenses.
4. Assignments will be graded for form as well as content.
5. Errors in spelling, grammar, or syntax can detract from or distort the message you are trying to communicate. As a result, such errors may reduce your grade.

Behavior in the Class:

1. Any disruptive behavior in the class will lead to a reduction in class participation points.
2. I love to answer questions, but if you have lots of questions due to previously missed lectures or other reasons, I suggest that you talk to me before or after the class.

GENERAL CLASS POLICIES:

· Prerequisites are strictly enforced. Students failing to complete a prerequisites with a grade of “C” or higher will be administratively withdrawn from the course in which they are in violation with a loss of tuition fees. **There are no exceptions.**
· Students are expected to attend all classes and group meetings, except when precluded by emergencies, religious holidays or bona fide extenuating circumstances.
· Students who, for non-academic reasons beyond their control, are unable to meet the full requirements of the course should notify the instructor. Incompletes may be given if a student has ONE AND ONLY ONE outstanding assignment.
· A “W” grade will be assigned if a student withdraws before mid-semester while maintaining a passing grade. Withdrawals after the mid-semester date will result in a grade of “WF”. Refer to GSU catalog or Registrar’s office for details.
· Spirited class participation is encouraged and informed discussion in class is expected. This requires completing readings and assignments before class.
· Unless specifically stated by the instructor, all exams and lab assignments are to be completed by the student alone.
Within group collaboration is allowed on project work. Collaboration between project groups will be considered cheating unless specifically allowed by an instructor.

Copy work from the Internet without a proper reference will be considered plagiarism and subject to disciplinary action as delineated in the Student Handbook.

Any non-authorized collaboration will be considered cheating and the student(s) involved will have an Academic Dishonesty charge completed by the instructor and placed on file in the Dean’s office and the CIS Department. All instructors regardless of the type of assignment will apply this Academic Dishonesty policy equally to all students. See excerpt from the Student Handbook below:

ACADEMIC HONESTY:


As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. The University assumes as a basic and minimum standard of conduct in academic matters that students be honest and that they submit for credit only the products of their own efforts. Both the ideals of scholarship and the need for fairness require that all dishonest work be rejected as a basis for academic credit. They also require that students refrain from any and all forms of dishonorable or unethical conduct related to their academic work.

Students are expected to discuss with faculty the expectations regarding course assignments and standards of conduct. Here are some examples and definitions that clarify the standards by which academic honesty and academically honorable conduct are judged at GSU.

Plagiarism. Plagiarism is presenting another person’s work as one’s own. Plagiarism includes any paraphrasing or summarizing of the works of another person without acknowledgment, including the submitting of another student’s work as one’s own. Plagiarism frequently involves a failure to acknowledge in the text, notes, or footnotes the quotation of the paragraphs, sentences, or even a few phrases written or spoken by someone else. The submission of research or completed papers or projects by someone else is plagiarism, as is the unacknowledged use of research sources gathered by someone else when that use is specifically forbidden by the faculty member. Failure to indicate the extent and nature of one’s reliance on other sources is also a form of plagiarism. Failure to indicate the extent and nature of one’s reliance on other sources is also a form of plagiarism. Any work, in whole or part, taken from the Internet or other computer based resource without properly referencing the source (for example, the URL) is considered plagiarism. A complete reference is required in order that all parties may locate and view the original source. Finally, there may be forms of plagiarism that are unique to an individual discipline or course, examples of which should be provided in advance by the faculty member. The student is responsible for understanding the legitimate use of sources, the appropriate ways of acknowledging academic, scholarly or creative indebtedness, and the consequences of violating this responsibility.
**Cheating on Examinations.** Cheating on examinations involves giving or receiving unauthorized help before, during, or after an examination. Examples of unauthorized help include the use of notes, texts, or “crib sheets” during an examination (unless specifically approved by the faculty member), or sharing information with another student during an examination (unless specifically approved by the faculty member). Other examples include intentionally allowing another student to view one’s own examination and collaboration before or after an examination if such collaboration is specifically forbidden by the faculty member.

**Unauthorized Collaboration.** Submission for academic credit of a work product, or a part thereof, represented as its being one’s own effort, which has been developed in substantial collaboration with assistance from another person or source, or computer honesty. It is also a violation of academic honesty knowingly to provide such assistance. Collaborative work specifically authorized by a faculty member is allowed.