A. COURSE OBJECTIVES
The goal of this course is to study hardware and software components of computer networks, their organization and operations. The topics include: open system interconnection; local area networks; TCP/IP internetworking, routing, and packet switching; network programming.

B. COURSE OUTLINE
- Introduction: Communications, Standards and Protocols
- Network models.
- Data and signals.
- Digital transmission.
- Bandwidth utilization.
- Transmission media and switching.
- Error detection and correction.
- Data link control and Multiple Access.
- Wired LAN and connecting LANs.
- Logical addressing and Internet protocol.
- Address mapping, error reporting and multicasting.
- Routing of IP packets and packet switching.
- Process to process delivery
- Congestion control and QoS.
- Network applications: Email, telnet, ftp.
- Network modeling and simulation (programming intensive).

C. PREREQUISITE:
Prerequisite grades of at least "C" in CSC 261 and 330 or permission of instructor.

D. COMPETENCIES STUDENTS ARE EXPECTED TO MASTER
- Ability to identify different types of data communication networks and different applications of computer communication networks;
- Ability to implement seven layer computer network architecture and their corresponding protocols;
- Ability to solve problems that are related to inter-networking and TCP/IP protocols;
- Understand the packet-switched networks and routing strategies.
- The flow control and various ways of enforcing it.
- Simulation of computer network features.
E. TEXT BOOKS:

F. EVALUATION OF STUDENT WORK AND GRADING:

**Undergraduate Students:**

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<thead>
<tr>
<th>Assignment 1</th>
<th>5%</th>
<th>Test 1: 10%</th>
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<tbody>
<tr>
<td>Assignment 2</td>
<td>15%</td>
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<tr>
<td>Assignment 3</td>
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<tr>
<td>Final Exam:</td>
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Final passing grades will be awarded as per the following table for percentage of points earned for the course. Students must sit the final exam in order to pass the course.

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<td>B+</td>
<td>87-89%</td>
<td>C+</td>
<td>77-79%</td>
<td>D+</td>
<td>67-69%</td>
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<tr>
<td>A</td>
<td>93-96%</td>
<td>B</td>
<td>83-86%</td>
<td>C</td>
<td>73-76%</td>
<td>D</td>
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<td>A-</td>
<td>90-92%</td>
<td>B-</td>
<td>80-82%</td>
<td>C-</td>
<td>70-72%</td>
<td>D-</td>
<td>60-62%</td>
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**Graduate Students:**

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<tr>
<th>Assignment 1</th>
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<tr>
<td>Assignment 2</td>
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<tr>
<td>Assignment 3</td>
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<td>Test 3: 10%</td>
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<tr>
<td><strong>Project:</strong></td>
<td>20%</td>
<td>(make sure you talk to me to select a mini project or a research paper)</td>
</tr>
<tr>
<td>Final Exam:</td>
<td>25%</td>
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</table>

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<tr>
<td>A</td>
<td>95-100%</td>
<td>B+</td>
<td>87-89%</td>
<td>C+</td>
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<td>A-</td>
<td>90-94%</td>
<td>B</td>
<td>83-86%</td>
<td>C</td>
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<td>B-</td>
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G. CHEATING/COPYING:
Your work in this course is bound by the following policies: Students should note that cheating is regarded as a very serious offence which is likely to lead not only to failure in the course but also to additional penalties, refer [http://studentconduct.uncg.edu/policy/code/](http://studentconduct.uncg.edu/policy/code/). Students should carefully note that the taking of any unauthorized material into examination, such as notes, unauthorized materials and copying from other students would be regarded as cheating. Students should also
note that essays, assignments and other work are generally understood to be the student's own work and where such work is identical with, or similar to, another student's work, an assumption of cheating may arise. Where students wish to undertake work in conjunction with other students, it is suggested that the matter be discussed with the instructor.

H. ATTENDENCE POLICY:
I require class attendance. If you have excessive (> 4) unexcused absences, I may drop you from the course. There will be no makeup test under any circumstances. However, the final exam will substitute the test you missed, provided that you have received approval in advance from the instructor. An unexcused absence from a test will count as a 0.

I. IMPORTANT DATES:
Assignment1 due: 02/16/2014  Test1: 02/18/2014
Assignment2 due: 03/16/2014  Test2: 03/18/2014
Assignment3 due: 04/27/2014  Test3: 04/22/2014

Final Exam Date: Thursday, May 1, 2014; 12:00PM-3:00PM

J. INSTRUCTOR INFOMATION:

INSTRUCTOR NAME: Shan Suthaharan
TELEPHONE NO.: 336-256-1122
OFFICE LOCATION: Petty Building Room 161
EMAIL: ssuthaharan@uncg.edu
HOME PAGE: www.uncg.edu/~s_suthah
OFFICE HOURS: Tuesday 2:00pm – 4:00pm
              Thursday 1:00pm – 3:00pm
              Or by appointment.

****** Please let me know if you see any inaccuracy or ambiguity *****