1. Summary

This course studies general principles and concepts of computer networks. Topics include: local area networking technologies (Ethernet, token ring, and wireless), wide area networking technologies (packet-switching and routing), Internet protocols (IP, TCP, and UDP), and the client-server model. Network services such as DNS, HTTP, and SMTP are also covered, in addition to a brief overview of congestion control, network security, and distributed systems.

In addition to written homework assignments, two socket-programming assignments and four OPNET simulation laboratory experiments will be assigned for better understanding the core concepts of networking.

2. Prerequisites
Operating System, Computer Organization, C/C++ or Java Programming, Data Structures.

3. Instructor
Name: Jinhua Guo
Office: 211 CIS
Phone: (313) 583 –6439
Email: jinhua@engin.umd.umich.edu
Web: http://www.engin.umd.umich.edu/~jinhua

4. Course Materials

Required Text Book

References
Computer Networks, 4/E, Tanenbaum. Prentice-Hall.

5. Course Website
All course information, including this syllabus, as well as class lectures, project information and grades can be obtained from http://vlt.engin.umd.umich.edu/dashboard

Enrollment Key:
6. **Grading (subject to change)**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Programming Assignment</td>
<td>20 %</td>
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<tr>
<td>Homework</td>
<td>13 %</td>
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<tr>
<td>OPNET Laboratory Experiment Reports</td>
<td>12 %</td>
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<tr>
<td>Midterm Exam</td>
<td>25 %</td>
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<tr>
<td>Final Exam</td>
<td>30 %</td>
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<td><strong>Total</strong></td>
<td><strong>100 %</strong></td>
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7. **Policies**

**Due Dates:**
Programming assignments are due at 11:59 pm on the date specified. Homework assignments and lab experiment reports are due at the start of class on the date specified. Programming assignments and lab reports may be turned in up to one week late, at a penalty of 10%. No late homework will be accepted.

Exceptions to these rules will be made only under *exceptional* circumstances, and then only with an appropriate written excuse.

**Exams:**
There will be one midterm and a final. The exams will be close books and close notes; however, you may bring a piece of information sheet (letter size, two sides). Unless prior arrangements are made, a grade of zero will be recorded for missed exams.

8. **Learning Outcome**

- Knowledge of general principals and concepts of computer networks.
- Knowledge of local area networking technologies, such as Ethernet, Token Rings, and Wireless LAN.
- Knowledge of wide area networking technologies (Packet-Switching and Routing).
- Knowledge of Internet protocols (IP, TCP, and UDP).
- Ability to design basic networking services with socket programming.
- Improved system programming skills.

9. **Statement on Academic Conduct**

The University of Michigan-Dearborn values academic honesty and integrity. Each student has a responsibility to understand, accept, and comply with the University’s standards of academic conduct as set forth by the Code of Academic Conduct, as well as policies established by the schools and colleges. Cheating, collusion, misconduct, fabrication, and plagiarism are considered serious offenses. Violations will not be tolerated and may result in penalties up to and including expulsion from the University.