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## CSC 473 Computer Networks & Communication

(3 contact hours – 0 lab hours – 3 credits)

### Syllabus<sup>1</sup>

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- **General Information**

<b>Instructor</b>	
<b>Office</b>	
<b>Phone</b>	
<b>Class Time</b>	
<b>Class Location</b>	
<b>Office Hours</b>	
<b>Teaching Assistant</b>	

- **Required Textbook**

**Computer Networking: A Top Down Approach, Sixth Edition**, J. Kurose and K. Ross, Addison-Wesley, 2013, ISBN: 978-0132856201.

- **Supplementary Textbook**

**Computer Networks, Fifth Edition**, A. Tanenbaum, Prentice Hall, 2010.

- **Course Description**

Digital data communication systems in hardware and software, synchronous and asynchronous communication, standards, protocols, network configurations, network applications.

- **Course Prerequisites**

CSC 313 and MATH 221

- **Course Category**

Required

- **Course Outcomes:**

After successful completion of this course the student will be able to:

1. List and explain the ISO OSI Reference Model and the TCP/IP model. [ABET a].

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<sup>1</sup> This syllabus may change as needed. In such a case, students will be informed accordingly

2. Explain roles of repeaters, bridges, routers and switches in networks and inter-networks, including the Internet. [ABET a, b].
3. Quantify the behavior of simple protocol scenarios, and compare and contrast the performance of link-layer reliability protocols under varying error conditions. [ABET a, b, i, j].
4. Describe the distinctive roles of network hardware, software, and protocols in practical systems, and how LANs and MANs are composed to form the Internet. [ABET a, b, h, i].
5. Identify the key design parameters regarding data link, network routing and transport layer protocols. [ABET a, j].
6. Build client-server programs of small size by using network socket programming interface. [ABET i].
7. Describe the basic architecture of wireless network including mobility and its applications such as GSM, UMTS, WiMax, Wi-Fi, CDMA, and WCDMA. [ABET a].

• **Tentative Schedule**

<b>Topic</b>	<b>Week</b>
Syllabus	1
Ch1: Concepts, Background and Terminology	1,2
Ch2: Application Layer and System Tools	3,4
Ch3: Transport Layer	5,6
Ch4: Network Layer	7-9
Ch5: Link Layer and LANs	10-12
Ch6: Wireless Networks	13-15

• **Grading Scheme**

Quizzes	<b>10%</b>
Assignments	<b>10%</b>
Project	<b>10%</b>
Midterm Exam	<b>30%</b>
Final Exam	<b>40%</b>