

# CS 372 Introduction to Computer Networks

## Course Calendar\* Spring 2020

**NOTE: Weeks are shown Sunday through Sunday. Assignments are due each Sunday, unless otherwise noted.**

**\*NOTE: Subject to change based on material pace**

**New Assignments in BLACK. Due Assignments in RED**

Unit / Week	Topics
<b>#1: 03/29 – 04/05</b> <b>Week 1 Summary Exercises</b> <b>Discussion: Introduce Yourself</b> <b>Syllabus Quiz</b> <b>Lab #1</b>  <b>Week 1 Summary Exercises</b> <b>Syllabus Quiz</b> <b>Discussion: Introduce Yourself</b>	<ul style="list-style-type: none"> <li>• Basic concepts</li> <li>• Networking metrics</li> <li>• Network protocols</li> <li>• Network edge/core</li> <li>• Circuit-switching / Packet-switching</li> </ul> <b>Read K&amp;R Chapter 1.1 – 1.4</b>
<b>#2: 04/05 – 04/12</b>  <b>Week 2 Summary Exercises</b> <b>Project #1</b>  <b>Week 2 Summary Exercises</b> <b>Lab #1</b>	<ul style="list-style-type: none"> <li>• Physical media</li> <li>• Layering models</li> <li>• Security issues</li> <li>• Application layer</li> </ul> <b>Read K&amp;R Chapter 1.5 – 1.8, 2.1</b>
<b>#3: 04/12 – 04/19</b>  <b>Week 3 Summary Exercises</b> <b>Lab #2</b>  <b>Week 3 Summary Exercises</b> <b>Project #1</b>	<ul style="list-style-type: none"> <li>• Application layer protocols <ul style="list-style-type: none"> <li>◦ Hypertext Transfer Protocol (HTTP)</li> <li>◦ File Transfer Protocol (FTP)</li> <li>◦ Mail (SMTP, POP3, IMAP)</li> <li>◦ Domain Name Services (DNS) <ul style="list-style-type: none"> <li>▪ Network byte order</li> </ul> </li> </ul> </li> </ul> <b>Read K&amp;R Chapter 2.2 – 2.4, 2.7 (2.6 optional)</b>
<b>#4: 04/19 – 04/26</b>  <b>Week 4 Summary Exercises</b> <b>Video Demo #1</b> <b>Project #2</b>  <b>Week 4 Summary Exercises</b> <b>Lab #2</b>	<ul style="list-style-type: none"> <li>• Transport Layer <ul style="list-style-type: none"> <li>◦ Introduction</li> <li>◦ Multiplexing/Demultiplexing</li> </ul> </li> <li>• Socket programming primer</li> <li>• Transport Layer <ul style="list-style-type: none"> <li>◦ Connectionless transport</li> <li>◦ Connection-oriented transport</li> <li>◦ Reliable Data Transfer</li> </ul> </li> </ul> <b>Read K&amp;R Chapter 3.1 – 3.3, 3.5.4</b>

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<p><b>#5:</b> 04/26 – 05/03</p> <p><b>Week 5 Summary Exercises</b> <b>Lab #3</b></p> <p><b>Week 5 Summary Exercises</b> <b>Video Demo #1</b> <b>Project #2</b></p>	<ul style="list-style-type: none"> <li>• Transport Layer <ul style="list-style-type: none"> <li>○ Transmission Control Protocol (TCP)</li> <li>○ User Datagram Protocol (UDP)</li> <li>○ Flow control</li> <li>○ Sliding window</li> </ul> </li> </ul> <p><b>Read K&amp;R Chapter 3.4 – 3.5 (Re-read 3.5.4)</b></p>
<p><b>#6:</b> 05/03 – 05/10</p> <p><b>Week 6 Summary Exercises</b> <b>Project #3</b></p> <p><b>Week 6 Summary Exercises</b> <b>Lab #3</b></p>	<ul style="list-style-type: none"> <li>• Transport Layer <ul style="list-style-type: none"> <li>○ Congestion control</li> <li>○ TCP Connections Setup &amp; Teardown</li> <li>○ TCP Fairness</li> </ul> </li> </ul> <p><b>Read K&amp;R Chapter 3.6 – 3.8</b></p> <p><b>Midterm Exam</b> <b>(Available Thursday – Sunday only)</b></p>
<p><b>#7:</b> 05/10 – 05/17</p> <p><b>Week 7 Summary Exercises</b> <b>Lab #4</b></p> <p><b>Week 7 Summary Exercises</b> <b>Project #3</b></p>	<ul style="list-style-type: none"> <li>• Network Layer <ul style="list-style-type: none"> <li>○ Introduction</li> <li>○ Internet protocols</li> <li>○ Datagram Routing &amp; Forwarding</li> <li>○ Internet Protocol (IPv4) Header</li> <li>○ Routing vs. Forwarding</li> </ul> </li> <li>• Network Layer <ul style="list-style-type: none"> <li>○ Classless Inter-Domain Routing (CIDR)</li> <li>○ Dynamic Host Configuration Protocol (DHCP)</li> </ul> </li> </ul> <p><b>Read K&amp;R Chapter 4.1 – 4.3</b></p>
<p><b>#8:</b> 05/17 – 05/24</p> <p><b>Week 8 Summary Exercises</b> <b>Project #4</b></p> <p><b>Week 8 Summary Exercises</b> <b>Lab #4</b></p>	<ul style="list-style-type: none"> <li>• Network Layer <ul style="list-style-type: none"> <li>○ Routing algorithms</li> <li>○ Fragmentation</li> <li>○ Internet Control Message Protocol (ICMP)</li> <li>○ Network Address Translation (NAT, NAPT)</li> </ul> </li> </ul> <p><b>Read K&amp;R Chapter 5.1 – 5.3, 5.6</b></p>

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<p><b>#9:</b> 05/24 – 05/31</p> <p><b>Week 9 Summary Exercises</b>  <b>Video Demo #2</b>  <b>Lab #5</b></p> <p><b>Week 9 Summary Exercises</b>  <b>Project #4</b></p>	<ul style="list-style-type: none"> <li>• Network Layer <ul style="list-style-type: none"> <li>○ Internet Protocol (IPv6)</li> </ul> </li> <li>• Link Layer <ul style="list-style-type: none"> <li>○ Network interfaces</li> <li>○ Multiple Access protocols</li> <li>○ MAC addresses</li> <li>○ Address Resolution Protocol (ARP)</li> <li>○ Local Area Networks (LAN) <ul style="list-style-type: none"> <li>▪ Ethernet</li> </ul> </li> </ul> </li> </ul> <p><b>Read K&amp;R Chapter 6.1 – 6.4, 6.7</b></p>
<p><b>#10:</b> 05/31 – 06/07</p> <p><b>Week 10 Summary Exercises</b></p> <p><b>Video Demo #2 due FRIDAY</b>  <b>Lab #5 due FRIDAY</b>  <b>Week 10 Summary Exercises</b></p>	<ul style="list-style-type: none"> <li>• Link Layer <ul style="list-style-type: none"> <li>○ Ethernet Frame and Multiple Access</li> <li>○ Wireless networks</li> <li>○ Networking Mobility</li> </ul> </li> <li>• Network security</li> <li>• Cryptography</li> </ul> <p><b>Read K&amp;R Chapter 7.1 – 7.3, 8.1 – 8.3</b></p>
<p><b>#11:</b></p> <p><b>Final Exam Dates: 06/05 – 06/08</b></p>	<p><b>Final Exam</b>  <b>(Available Friday – Monday only)</b></p>