## CS 372 Introduction to Computer Networks
### Course Calendar Fall 2021

Notes: Weeks are shown Monday through Sunday, Assignments are due Sunday nights, unless otherwise noted, schedule tentative

New Assignments in BLACK. Due Assignments in RED

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
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<tbody>
<tr>
<td>#0: Before week 1</td>
<td>Get familiar, look ahead</td>
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<tr>
<td>#1: 27 September – 03 October  &lt;br&gt; Syllabus Quiz  &lt;br&gt; Module 1 Summary Exercises  &lt;br&gt; Discussion: Introduce Yourself  &lt;br&gt; Lab #1</td>
<td>Basic concepts  &lt;br&gt; Networking metrics  &lt;br&gt; Network protocols  &lt;br&gt; Network edge/core  &lt;br&gt; Circuit-switching / Packet-switching</td>
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<tr>
<td>Syllabus Quiz  &lt;br&gt; Module 1 Summary Exercises  &lt;br&gt; Discussion: Self Intro, Video due Friday</td>
<td><strong>Read</strong> K&amp;R Chapter 1.1 – 1.4</td>
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<td>#2: 04 October – 10 October  &lt;br&gt; Module 2 Summary Exercises  &lt;br&gt; Project #1</td>
<td>Physical media  &lt;br&gt; Layering models  &lt;br&gt; Security issues  &lt;br&gt; Application layer</td>
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<td>Module 2 Summary Exercises  &lt;br&gt; Lab #1</td>
<td><strong>Read</strong> K&amp;R Chapter 1.5 – 1.8, 2.1</td>
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<td>#3: 11 October – 17 October  &lt;br&gt; Module 3 Summary Exercises  &lt;br&gt; Lab #2</td>
<td>Application layer protocols:  &lt;br&gt; - Hypertext Transfer Protocol (HTTP)  &lt;br&gt; - File Transfer Protocol (FTP)  &lt;br&gt; - Mail (SMTP, POP3, IMAP)  &lt;br&gt; - Domain Name Services (DNS)  &lt;br&gt; Network byte order</td>
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<td>Module 3 Summary Exercises  &lt;br&gt; Project #1</td>
<td><strong>Read</strong> K&amp;R Chapter 2.2 – 2.4, 2.7 (2.6 optional)</td>
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<td>#4: 18 October – 24 October  &lt;br&gt; Module 4 Summary Exercises  &lt;br&gt; Project #2</td>
<td>Transport Layer  &lt;br&gt; - Introduction  &lt;br&gt; - Multiplexing/Demultiplexing  &lt;br&gt; Socket programming primer  &lt;br&gt; Transport Layer  &lt;br&gt; - Connectionless transport  &lt;br&gt; - Connection-oriented transport  &lt;br&gt; - Reliable Data Transfer</td>
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<tr>
<td>Module 4 Summary Exercises  &lt;br&gt; Lab #2</td>
<td><strong>Read</strong> K&amp;R Chapter 3.1 – 3.3, 3.5.4</td>
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| #5: 25 October – 31 October | Transport Layer  
| Module 5 Summary Exercises | • Transmission Control Protocol (TCP)  
| Lab #3 | • User Datagram Protocol (UDP)  
| Discussion: Modules 1-5, Video Demo #1 | • Flow control  
| | • Sliding window  
| Module 5 Summary Exercises | Read K&R Chapter 3.4 – 3.5 (Re-read 3.5.4)  
| Lab #3 |  
| Discussion: Modules 1-5, Video Demo #1 | due Friday  
| due Friday |

| #6: 01 November – 07 November | Midterm Exam (covers weeks 1-5)  
| Midterm Exam Dates | Transport Layer  
| | • Congestion control  
| | • TCP Connections Setup & Teardown  
| | • TCP Fairness  
| Module 6 Summary Exercises | Read K&R Chapter 3.6 – 3.8  
| Lab #3 |  
| Module 6 Summary Exercises |  

| #7: 08 November – 14 November | Network Layer  
| Module 7 Summary Exercises | • Introduction  
| Lab #4 | • Internet protocols  
| Module 7 Summary Exercises | • Datagram Routing & Forwarding  
| | • Internet Protocol (IPv4) Header  
| | • Routing vs. Forwarding  
| | • Classless Inter-Domain Routing (CIDR)  
| | • Dynamic Host Configuration Protocol (DHCP)  
| Read K&R Chapter 4.1 – 4.3 |  

| #8: 15 November – 21 November | Network Layer  
| Module 8 Summary Exercises | • Routing algorithms  
| Lab #4 | • Fragmentation  
| Module 8 Summary Exercises | • Internet Control Message Protocol (ICMP)  
| | • Network Address Translation (NAT, NAPT)  
| Read K&R Chapter 5.1 – 5.3, 5.6 |  

| #9: 22 November – 28 November | Network Layer  
| Module 9 Summary Exercises | • Internet Protocol (IPv6)  
| Lab #5 | Link Layer  
| Project #4 | • Network interfaces  
| Module 9 Summary Exercises | • Multiple Access protocols  
| | • MAC addresses  
| | • Address Resolution Protocol (ARP)  
| | • Local Area Networks (LAN)  
| | ○ Ethernet  
| Read K&R Chapter 6.1 – 6.4, 6.7 |  

| #10: 29 November – 05 December | Link Layer  
| Module 10 Summary Exercises | • Ethernet Frame and Multiple Access  
| Discussion: Modules 6-10, Video Demo #2 | • Wireless networks  
| Lab #5 |  

Page 2 of 3
Discussion: Modules 6-10, Video Demo #2
due FRIDAY
Lab #5 due FRIDAY
Module 10 Summary Exercises
Project #4

- Networking Mobility
  - Network security
  - Cryptography

Read K&R Chapter 7.1 – 7.3, 8.1 – 8.3

Final: 01 December – 07 December
Final Exam

Final Exam (covers weeks 6-10)
(Available through Tuesday of finals week)