# Course Calendar Winter 2022

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>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#0: Before week 1</strong></td>
<td>Get familiar, look ahead</td>
</tr>
<tr>
<td><strong>#1: 03 January – 09 January</strong></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>
</tr>
<tr>
<td><em>Syllabus Quiz</em></td>
<td></td>
</tr>
<tr>
<td>Module 1 Summary Exercises</td>
<td></td>
</tr>
<tr>
<td><strong>Discussion: Introduce Yourself</strong></td>
<td></td>
</tr>
<tr>
<td><em>Lab #1</em></td>
<td></td>
</tr>
<tr>
<td><em>Syllabus Quiz</em></td>
<td></td>
</tr>
<tr>
<td>Module 1 Summary Exercises</td>
<td></td>
</tr>
<tr>
<td><strong>Discussion: Self Intro, Video due Friday</strong></td>
<td></td>
</tr>
<tr>
<td><strong>#2: 10 January – 16 January</strong></td>
<td>Physical media &lt;br&gt; Layering models &lt;br&gt; Security issues &lt;br&gt; Application layer</td>
</tr>
<tr>
<td><em>Module 2 Summary Exercises</em></td>
<td></td>
</tr>
<tr>
<td><em>Project #1</em></td>
<td></td>
</tr>
<tr>
<td><em>Module 2 Summary Exercises</em></td>
<td></td>
</tr>
<tr>
<td><em>Lab #1</em></td>
<td></td>
</tr>
<tr>
<td><strong>#3: 17 January – 23 January</strong></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>
</tr>
<tr>
<td><em>Module 3 Summary Exercises</em></td>
<td></td>
</tr>
<tr>
<td><em>Lab #2</em></td>
<td></td>
</tr>
<tr>
<td><em>Module 3 Summary Exercises</em></td>
<td></td>
</tr>
<tr>
<td><em>Project #1</em></td>
<td></td>
</tr>
<tr>
<td><strong>#4: 24 January – 30 January</strong></td>
<td>Transport Layer &lt;br&gt; Introduction &lt;br&gt; Multiplexing/Demultiplexing &lt;br&gt; Socket programming primer</td>
</tr>
<tr>
<td><em>Module 4 Summary Exercises</em></td>
<td></td>
</tr>
<tr>
<td><em>Project #2</em></td>
<td></td>
</tr>
<tr>
<td><em>Module 4 Summary Exercises</em></td>
<td></td>
</tr>
<tr>
<td><em>Lab #2</em></td>
<td></td>
</tr>
</tbody>
</table>
| #5: 31 January – 06 February | Transport Layer  
Module 5 Summary Exercises  
Lab #3  
Discussion: Modules 1-5, Video Demo #1  
Module 5 Summary Exercises  
Lab #3  
Discussion: Modules 1-5, Video Demo #1 due Friday  
Read K&R Chapter 3.4 – 3.5 (Re-read 3.5.4) |
|---|---|
| Midterm: 07 February – 13 February | Midterm Exam (covers weeks 1-5)  
Module 6 Summary Exercises  
Module 6 Summary Exercises  
Transport Layer  
• Congestion control  
• TCP Connections Setup & Teardown  
• TCP Fairness  
Read K&R Chapter 3.6 – 3.8 |
| #6: 07 February – 13 February | Network Layer  
Module 6 Summary Exercises  
Module 6 Summary Exercises  
• Introduction  
• Internet protocols  
• 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 |
| #7: 14 February – 20 February | Network Layer  
Module 7 Summary Exercises  
Lab #4  
Module 7 Summary Exercises  
Network Layer  
• Routing algorithms  
• Fragmentation  
• Internet Control Message Protocol (ICMP)  
• Network Address Translation (NAT, NAPT)  
Read K&R Chapter 5.1 – 5.3, 5.6 |
| #8: 21 February – 27 February | Network Layer  
Module 8 Summary Exercises  
Module 8 Summary Exercises Lab #4  
Network Layer  
• Internet Protocol (IPv6)  
Link Layer  
• Network interfaces  
• Multiple Access protocols  
• MAC addresses  
• Address Resolution Protocol (ARP)  
• Local Area Networks (LAN)  
• Ethernet  
Read K&R Chapter 6.1 – 6.4, 6.7 |
| #9: 28 February – 06 March | Link Layer  
Module 9 Summary Exercises  
Exercises Lab #5  
Project #4  
Module 9 Summary Exercises  
Link Layer  
• Ethernet Frame and Multiple Access  
• Wireless networks  
Read K&R Chapter 6.1 – 6.4, 6.7 |
| #10: 07 March – 13 March |  
Module 10 Summary Exercises  
Discussion: Modules 6-10, Video Demo #2  
Module 10 Summary Exercises  
Discussion: Modules 6-10, Video Demo #2  
Link Layer  
• Ethernet Frame and Multiple Access  
• Wireless networks  
Read K&R Chapter 6.1 – 6.4, 6.7 |
| Discussion: Modules 6-10, Video Demo #2 due FRIDAY | Networking Mobility  
| Lab #5 due FRIDAY | Network security  
| Module 10 Summary Exercises | Cryptography  
| Project #4 | Read K&R Chapter 7.1 – 7.3, 8.1 – 8.3  
| **Final: 12 March – 16 March** | **Final Exam (covers weeks 6-10)**  
| **Final Exam** | (Available Saturday – Wednesday) |