

**This schedule is tentative.**

Unit	Week #	Date range	Agenda	Note
Applied Cryptography	Week 1	Jan 6-10	<ul style="list-style-type: none"> <li>Overview, Hash function constructions</li> <li>Hash application (password authentication)</li> <li>Entropy &amp; extraction, Pseudorandom generators</li> </ul>	
	Week 2	Jan 13-17	<ul style="list-style-type: none"> <li>One-Time Pad / Stream Ciphers</li> <li>Block Ciphers and modes of operations</li> <li>MACs</li> <li>Authenticated encryption</li> </ul>	
	Week 3	Jan 20-24	<ul style="list-style-type: none"> <li>Number theory</li> <li>Diffie-Hellman / Elgamal, public key</li> <li>RSA</li> <li>Digital signature</li> </ul>	Quiz1 (Jan20)
OS Security	Week 4	Jan 27-31	<ul style="list-style-type: none"> <li>PKI</li> <li>Access control matrix</li> <li>Access control list and capabilities</li> <li>UNIX security</li> </ul>	
	Week 5	Feb 3-7	<ul style="list-style-type: none"> <li>Confidentiality policy</li> <li>Integrity policy</li> <li>Hybrid policy</li> </ul>	Quiz2 (Feb5) Assignment1 release
Software and web security	Week 6	Feb 10-14	<ul style="list-style-type: none"> <li>Chinese wall</li> <li>Memory fundamentals</li> <li>Buffer overflow</li> </ul>	Assignment1 due (Feb 10) Assignment2 release
	Week 7	Feb 17-21	Winter reading week	
	Week 8	Feb 24-Feb28	<ul style="list-style-type: none"> <li>Format string</li> <li>Malicious logics and countermeasures</li> <li>Web</li> </ul>	Assignment2 due (Feb 24) Assignment3 release
	Week 9	Mar 3 -7	<ul style="list-style-type: none"> <li>Midterm</li> <li>Cookies</li> <li>SQL injection</li> </ul>	First exam (Mar 3) Assignment4 release
Threat detection and investigation	Week 10	Mar 10-14	<ul style="list-style-type: none"> <li>Secure web application (XSS and CSRF)</li> <li>Session management</li> <li>Intrusion detection1 (Auditing+ anomaly-based IDS)</li> </ul>	Assignment3 due (Mar10) Quiz3 (Mar12)
	Week 11	Mar 17-21	<ul style="list-style-type: none"> <li>Intrusion detection2 (accuracy+signature-based)</li> <li>Evading IDS</li> <li>Data provenance</li> <li>Network background</li> </ul>	Assignment4 due (Mar 19)
Network Security	Week 12	Mar 24-28	<ul style="list-style-type: none"> <li>Network attacks</li> <li>Guest lecture (provenance evasion)</li> <li>firewalls</li> </ul>	
	Week 13	Mar 31-Apr 4	<ul style="list-style-type: none"> <li>Anonymity on the Internet</li> </ul>	Assignment5 due (Mar31) Second Exam (Date determined by faculty)