This syllabus is tentative and will undoubtedly continue to change as the quarter progresses. If there is a topic you’re interested in but not shown, please let me know; I may well change things to cover it. All readings are from the text unless otherwise indicated.

Week 1: Dates: Sep 22, Sep 24
Lec 1–2 Topics: Introduction, principles of secure design, threats and policies
Reading: text, §1, 14

Week 2: Dates: Sep 27, Sep 29, Oct 1
Lec 3–5 Topics: Basic policy models: Bell-LaPadula, Biba, Clark-Wilson
Reading: text, §5.2.1–5.2.2, 5.3, 6.2, 6.4

Week 3: Dates: Oct 4, Oct 6, Oct 8
Lec 6–8 Topics: Symmetric and public key cryptography
Reading: text, §10
Due: Oct 6: homework 1; Oct 8: project selection

Week 4: Dates: Oct 11, Oct 13, Oct 15
Lec 9–11 Topics: Protocols, authentication
Reading: text, §12.3, 12.5, 13

Week 5: Dates: Oct 18, Oct 20, Oct 22
Lec 12–14 Topics: Access control mechanisms, confinement problem, reference monitor
Reading: text, §16.1–16.3, 18.1–18.2, 20.1, 2.2
Due: Oct 22: homework 2

Week 6: Dates: Oct 25, Oct 27, Oct 29 [No class on Oct 29]
Lec 15–16 Topics: Confinement problem, vulnerabilities
Reading: text, §18.2, 24.3–24.4

Week 7: Dates: Nov 1, Nov 3, Nov 5
Lec 17–19 Topics: Penetration testing, malware
Reading: text, §24.1–24.2, 23.1–23.6.1
Due: Nov 5: progress report

Week 8: Dates: Nov 8, Nov 10, Nov 12
Lec 20–22 Topics: Malware, network security, firewalls, intrusion detection; Spectre
Reading: text, §23.6.2–23.7, 23.9, 26.1–26.3, 28.1, 28.3
Due: Nov 8: homework 3

Week 9: Dates: Nov 15, Nov 17, Nov 19
Lec 23–25 Topics: Malware, entropy, information flow
Reading: §23.9.7, C, 17.1, 17.3–17.6

Week 10: Dates: Nov 22, Nov 24, Nov 26 [Nov 26 is Thanksgiving (a university holiday)]
Lec 26–27 Topics: Identity
Reading: §15
Due: Nov 22: homework 4

Week 11: Dates: Nov 30, Dec 1, Dec 3 [Dec 3 is the last class]
Lec 28–30 Topics: Anonymity, onion routing, elections and e-voting
Reading: papers
Due: Dec 3: homework 5

Dec 7: Due: Completed project due at 3:00pm