Tentative Syllabus

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 21, Sep 23
Lec 1–2 Topics: Introduction, principles of secure design, threats and policies
Reading: text, §1, 14; papers [Sm12,MA19]

**Week 2:** Dates: Sep 26, Sep 28, Sep 30
Lec 3–5 Topics: Basic policy models: Bell-LaPadula, Biba, Clark-Wilson
Reading: text, §5.1–5.2.2, 5.3, 6.2, 6.4; paper [Sa93]

**Week 3:** Dates: Oct 3, Oct 5, Oct 7
Lec 6–8 Topics: Symmetric and public key cryptography
Reading: text, §10
Due: Oct 5: homework 1; Oct 7: project selection

**Week 4:** Dates: Oct 10, Oct 12, Oct 14
Lec 9–11 Topics: Protocols, authentication
Reading: text, §11.1, 12.1, 12.4, 12.5, 13; papers [Ke93]

**Week 5:** Dates: Oct 17, Oct 19, Oct 21
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; papers [HS16]
Due: Oct 21: homework 2

**Week 6:** Dates: Oct 24, Oct 26, Oct 28
Lec 15–17 Topics: Confinement problem, vulnerabilities
Reading: text, §18.2, 24.3–24.4; papers [La73,Li75]

**Week 7:** Dates: Oct 31, Nov 2, Nov 4
Lec 18–20 Topics: Penetration testing, malware
Reading: text, §24.1–24.2, 23.1–23.6.1; papers [B+07]
Due: Nov 4: progress report

**Week 8:** Dates: Nov 7, Nov 9, Nov 11 [Nov 11 is Veterans Day (a university holiday)]
Lec 20–21 Topics: Elections and e-voting, malware
Reading: text, §23.6.2–23.7, 23.9, 26.1–26.3, 28.1, 28.3; papers [Bi00,O+17]
Due: Nov 9: homework 3

**Week 9:** Dates: Nov 14, Nov 16, Nov 18
Lec 22–24 Topics: Network security, firewalls, intrusion detection, entropy, information flow
Reading: text, §23.9.7, C, 17.1, 17.3–17.6; papers [B+07, De87]

**Week 10:** Dates: Nov 21, Nov 23, Nov 25 [Nov 25 is Thanksgiving (a university holiday)]
Lec 25–26 Topics: Information flow, identity
Reading: §15
Due: Nov 23: homework 4

**Week 11:** Dates: Nov 28, Nov 30, Dec 2 [Dec 2 is the last class]
Lec 27–29 Topics: Identity, anonymity, onion routing
Reading: §15
Due: Dec 2: homework 5

**Dec 8:** Due: Completed project due at 3:00pm


References


