

CSCI 283 - Computer Security I - Fall 2003
George Washington University

Handout 2 - 24 September, 2003
Revised Syllabus

- Week I 3 September: Introduction, Cryptanalysis of shift cipher
- Week II 10 September: *HW 1 due* Substitution cipher and cryptanalysis; Private key encryption (DES, AES); Public key encryption (RSA)
- Week III 17 September: One-way functions; Applications of cryptography: digital signatures, key exchange
- Week IV 24 September: *HW 2 due* Applications of cryptography contd.: key exchange, key agreement, discrete log, public key authentication, certificates, certificate chains. Other authentication techniques.
- Week V 1 October: Program Security: Buffer overflow, viruses.
- Week VI 8 October: Operating System Security
- Week VII 15 October: Test on Weeks I-V, inclusive, 25% of grade: ciphers (shift, substitution, scrambling, one-time pad), cryptanalysis, private key encryption (AES, DES), arithmetic modulo n , public key encryption (RSA, Discrete Log), one-way functions, applications (digital signatures, key management, key exchange, key agreement, Diffie-Hellman, public key authentication, certificates and certificate chains), program security, buffer overflow, viruses
- Week VIII 22 October: Return Test and Test discussion; Trusted Operating Systems
- Week IX 29 October: *HW 3 due Project Descriptions due* Network Security (Firewalls, Intrusion Detection)
- Week X 5 November: Database Security
- Week XI 12 November: *HW 4 due, Schedule question-answer with instructor* Identity, Anonymity and Privacy
- Week XII 19 November: Good Programming Practices, Security Administration
- Week XIII 26 November: Thanksgiving holiday
- Week XIV 3 December: Ethics and policy; questions
- Week XV Project reports due
- Final Test on Weeks VI, VIII-XII, XIV (Operating System Security, Trusted OS, Firewalls, Intrusion Detection, Database Security, ID, Anonymity, Privacy, Good Practices, Security Admin, Ethics and Policy) inclusive

Grading

25% each for project, test, final and homework.

Grading will be absolute and not on a curve.

Homeworks

You will have 4 HWs, and each will be weighted separately, proportional to the marks each is worth.

Test

25%, written, in-class. *Electronic devices not allowed.*

Project

25%

5% Project Description

For Theory Projects:

10% summary

10% question-answer

For Implementation Projects:

5% summary

5% question-answer

10% demo

Final

25%, written, in-class. *Electronic devices not allowed.*