

Trustworthy Computing

ECE 544/644

(Fall 2016)

Class Hours:	Tuesday, Thursday 1.00PM-2.15PM
Lecture Room:	Marston Hall 132
Instructor:	Prof. Aura Ganz (ganz@ecs.umass.edu)
Office:	Knowles Engineering Building 309F
Office Hours:	Tuesday and Thursday, 2.30pm-3.30pm
Teaching Assistants:	TBD
URL:	Moodle
Prerequisites:	Senior or Graduate student, an introductory course in Computer Networks
Textbook:	Network Security Essentials: Applications and Standards (4th edition) (Paperback), William Stallings, Prentice Hall, 2010, ISBN : 978-0136108054

Course Objectives

The main objectives of the proposed course are:

1. To make students realize the practical risks and concerns in network security
 2. To introduce a coherent framework for understanding network security
 3. To introduce the field's essential security concepts and techniques used to secure a network
 4. To expose the students to new state-of-the-art research topics in network security
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Topics Covered

1. Security attacks, services, mechanisms
 2. Symmetric encryption and message confidentiality
 3. Public-key cryptography
 4. Digital signatures
 5. Key management
 6. Authentication applications: Kerberos
 7. Email Security PGP, S/MIME
 8. IP security
 9. Web security: SSL, TLS, SET
 10. Intruders, intrusion detection
 11. Malicious software: viruses, virus countermeasures
 12. Firewalls
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Grading

ECE 544

- Test 1 (15%)
- Test 2 (20%)
- Test 3 (35%)
- Research Project (20%)
- Homeworks (10%)

ECE 644

- Test 1 (10%)
 - Test 2 (15%)
 - Test 3 (25%)
 - Research Project (40%)
 - Homeworks (10%)
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Accommodation Policy Statement

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), Learning Disabilities Support Services (LDSS), or Psychological Disabilities Services (PDS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

Statement on Academic Honesty

It is expected that all students will abide by the Graduate Student Honor Code and the Academic Honesty Policy (available at the Graduate Dean's Office, the Academic Honesty Office (Ombud's Office)). Sanctions for acts of dishonesty range from receiving a grade of F on the paper/exam/assignment or in the course, loss of funding, being placed on probation or suspension for a period of time, or being dismissed from the University. All students have the right of appeal through the Academic Honesty Board.