

**Department of Computer & Electrical Engineering
and Computer Science
Florida Atlantic University
Course Syllabus**

1. Course title/number, number of credit hours	
CNT 4411 Network and Data Security	3
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: (COP 3530 and COT 4400) or permission of the instructor	
3. Course logistics	
<i>Term:</i> Fall 2020 This is a classroom lecture course <i>Class location and time:</i> TBD	
4. Instructor contact information	
<i>Instructor's name</i>	Feng-Hao Liu
<i>Office address</i>	EE412
<i>Office Hours</i>	TBD
<i>Contact telephone number</i>	561-297-2341
<i>Email address</i>	fenghao.liu@fau.edu
5. TA contact information	
<i>TA's name</i>	TBD
<i>Office address</i>	
<i>Office Hours</i>	
<i>Contact telephone number</i>	
<i>Email address</i>	
6. Course description	
This course is an introduction to the broad field of computer, data, and information security. We will cover both <i>computer security</i> (e.g., security policies, access control, viruses, etc.) and <i>network security</i> (e.g., protocols for maintaining confidentiality of email or for secure web transactions), along with some relevant background in basic <i>cryptography</i> (e.g., <i>encryption/digital signatures</i>).	
7. Course objectives/student learning outcomes/program outcomes	
<i>Course objectives</i>	Objectives: <ul style="list-style-type: none"> • Learn security from various angles • Learn relevant tools to secure network/data (e.g., basic cryptography) • Analyze security issues in network and data

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	Outcome: <ul style="list-style-type: none"> • Develop ability to protect data privacy/security • Develop ability to defend against network attacks 		
<i>Student learning outcomes & relationship to ABET 1-7 outcomes</i>	a		
8. Course evaluation method			
Homework Assginments - Final Project -	70 30	% %	<i>Note:</i> The minimum grade required to pass the course is C.
9. Course grading scale			
Grading Scale: 90 and above: "A", 87-89: "A-", 83-86: "B+", 80-82: "B", 77-79: "B-", 73-76: "C+", 70-72: "C", 67-69: "C-", 63-66: "D+", 60-62: "D", 51-59: "D-", 50 and below: "F."			
10. Policy on makeup tests, late work, and incompletes			
No late work is accepted unless special permission from the instructor.			
11. Special course requirements			
NA			
12. Classroom etiquette policy			
University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.			
13. Attendance policy statement			
<p>Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance.</p> <p>Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the</p>			

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opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

14. Disability policy statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

15. Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

16. Code of Academic Integrity policy statement

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#). If your college has particular policies relating to cheating and plagiarism, state so here or provide a link to the full policy—but be sure the college policy does not conflict with the University Regulation.

17. Required texts/reading

To reduce costs for our students, we strongly encourage you to explore the adoption of open educational resources (OER), textbooks and other materials that are freely accessible. We also encourage you to clearly state in the syllabus if course materials are available on reserve in the Library.

Network Security: Private Communication in a Public World" (2nd edition), by Kaufman, Perlman, and Speciner.

18. Supplementary/recommended readings

Introduction to Computer Security, Goodrich and Tamassia, Addison Wesley, 2011
Introduction to Modern Cryptography, 2nd Edition, Katz and Lindell, Chapman & Hall/CRC, 2014
Cryptography and Network Security: Principles and Practice, 6th Edition Stallings, Pearson 2014

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19. Course topical outline, including dates for exams/quizzes, papers, completion of reading

Weekly Schedule	Topics
Week 01	Introduction, an overview of computer/network security
Week 02	Basic cryptography tools: private-key encryption, message authentication, hash
Week 03	Basic cryptography tools: public-key encryption, key exchange, digital signatures)
Week 04	Basic cryptography tools: Crypto pitfalls and case studies, e.g., side channel attacks
Week 05	Introduction to computer system security
Week 06	Database security, anonymity, Tor, onion routing
Week 07	Database privacy. Buffer overflow attacks
Week 08	Midterm
Week 09	Web security
Week 10	Authentication overview, password-based authentication
Week 11	Authentication protocols, password security
Week 12	Authentication and key exchange
Week 13	PKI and certification authorities
Week 14	Intrusion detection and firewalls
Week 15	Final

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