

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

1. Course title/number, number of credit hours	
CIS 4367 Operating Systems Security	3
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: (COP 4610: Computer Operating Systems)	
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> <i>Office address</i> <i>Office Hours</i> <i>Contact telephone number</i> <i>Email address</i>	Reza Azarderakhsh EE314 TBD 561-2974980 razarderakhsh@fau.edu
5. TA contact information	
<i>TA's name</i> <i>Office address</i> <i>Office Hours</i> <i>Contact telephone number</i> <i>Email address</i>	TBD
6. Course description	
Through hands-on experimentation, students will gain an understanding of how hardware and software constructs protect modern operating systems.	
7. Course objectives/student learning outcomes/program outcomes	
<i>Course objectives</i>	Objectives: <ul style="list-style-type: none"> • Learn security of operating systems • Learn relevant tools to secure operating systems • Learn how to enforcing mandatory access control • General information security Outcome: <ul style="list-style-type: none"> • Develop ability to protect operating systems • Improve the security of operating systems from malicious software

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<i>Student learning outcomes & relationship to ABET 1-7 outcomes</i>	a		
8. Course evaluation method			
Homework Assignments - Final Exam	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 opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.</p>			
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			

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<p>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/.</p>	
<p>15. Counseling and Psychological Services (CAPS) Center</p>	
<p>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/</p>	
<p>16. Code of Academic Integrity policy statement</p>	
<p>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.</p>	
<p>17. Required texts/reading</p>	
<p>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.</p>	
<p><i>Network Security: Private Communication in a Public World" (2nd edition), by Kaufman, Perlman, and Speciner.</i></p>	
<p>18. Supplementary/recommended readings</p>	
<ol style="list-style-type: none"> 1. Operating Systems: Principles and Practice, by Thomas Anderson and Michael Dahlin. 2. Operating System Security (Synthesis Lectures on Information Security, Privacy, and Trust), by Trent Jaeger. 3. Fundamentals of Secure Computer Systems, by Brett Tjaden 	
<p>19. Course topical outline, including dates for exams/quizzes, papers, completion of reading</p>	
<p>Weekly Schedule</p>	<p>Topics</p>

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Week 01	Introduction to operating system security
Week 02-03	Understanding the Threats such as Viruses and Worms
Week 04-05	Logging, Auditing, and Recovery
Week 06	OS-level Memory Protection
Week 07-08	Virtualization Technology and Applications
Week 09	Vulnerability Analysis
Week 10	Malware Capture and Analysis
Week 11	Midterm
Week 12	Secure File systems
Week 13	Secure Communications and messaging
Week 14	Memory Management
Week 15	Final