

Course name: CENG325 Principles of Information Security and Privacy				Department: Computer Engineering				
Semester	Methods of Education							Credit (ECTS)
	Practice	Recitation/ (Etud)	Lab	Project/ Field Study	Homework	Other	Total	
2021 – 2022 Fall	42	-	-	20	60	28	150	5
Language	English							
Compulsory/Elective	E							
Prerequisites	-							
Face to Face Lecture	0							
Online	3							
Course Contents	<p>Week 1 – CIA Triad, assets, vulnerabilities, threads, attacks</p> <p>Week 2 – Authentication, password cracking, password storage, password entropy</p> <p>Week 3 – In-class Activity 1: Poison Ivy</p> <p>Week 4 – In-class Activity 2: Password Cracking</p> <p>Week 5 – Domain name systems, firewalls, packet filters, intrusion detection systems</p> <p>Week 6 – In-class Activity 3: Network Analysis</p> <p>Week 7 – In-class Activity 4: Firewalls</p> <p>Week 8 – Buffer overflows, stack smashing</p> <p>Week 9 – Midterm</p> <p>Week 10 – In-class Activity 5: The role of argv in stack smashing</p> <p>Week 11 – Web basics, transport protocols, browsers, origin policies, XSS, CSRF</p> <p>Week 12 – In-class Activity 6: XSS Attack</p> <p>Week 13 – Introduction to crypto systems, cryptanalysis, hashes</p> <p>Week 14 – Hashes -Cont.</p> <p>Week 15 – Project Presentations</p>							
Course Objectives	<p>After an introduction to basic concepts in computer security, we will explore key problems and corresponding mitigation techniques in several important cyber-domains such as software security, web security, network and operating system security, authentication and access control, storage and cloud security, and an introduction to cryptography.</p>							
Learning Outcomes and Competences	<p>On completion of the course the student should have the following learning outcomes:</p> <ul style="list-style-type: none"> • understands security issues relating to system development, • knows software development techniques to avoid security problems, • can explain the most common weaknesses in software security and how such problems can be mitigated in software, • can identify common security threats, risks, and attack vectors for software systems, and 							
Textbook and /or References	Dieter Gollmann. Computer Security (3 rd ed.). John Wiley & Sons.							
Assessment Criteria							%	
	Midterm						15	
	Quiz						15	
	Final						20	
	Assignments						15	
	In-class Activities						15	
	Project						20	
Instructors	Dr. Fadi Yilmaz							



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