Course Name Network Security				أمن الشبكات		
Course Information		Course Code	Course No.	Credit Hour	Prerequisite(s)	
		0914612	CN 612	3 (3-0-6)	None	
Course Track	Program	n Core 🗌 Electiv	ves			

Course Description

Most of the serious attacks on computer systems involve exploitation of the underlying network infrastructure, either as the target of attack or as a vehicle to launch attacks on end systems. This course provides an in-depth study of network attacks and corresponding defense mechanisms. The course covers three broad areas within network security: 1) Network Attacks: eavesdropping, distributed denial of service, malware, phishing, worm and virus propagation, social engineering 2) Countermeasures: demilitarized zones, firewalls, intrusion detection systems, deep packet inspection, secure routing protocols, domain name system, secure socket layer, IP security, virtual private networks, VoIP, and 3) Future Trends: security aspects of software-defined networks, Internet of Things, smart gird, cloud based systems and next generation cellular and wireless networks. The course involves reading, lectures, discussions and a term project.

Course Outcomes

After the completion of this course, the student will be able to:

- 1. **Recall** fundamental network security concepts, techniques, and solutions in computer networks. [A]
- 2. Describe common attack techniques for different types of networks. [A]
- 3. Analyze the security aspects of networked systems to identify potential vulnerabilities. [C, E]
- 4. Describe the core issues and requirements in building secure and effective networks. [A]
- 5. Explain security threats and solutions in next generation networking technologies. [A]
- 6. **Prepare** reports on possible attacks and network defense mechanisms for given scenarios. [B, C]

Assessment Policy	Assignments	20%	Quiz	15%	Project	-				
	Midterm	25%	Final	40%	Others	-				
Textbook	William Stallings, Network Security Essentials: Applications and Standards, 6 th Edition, Prentice Hall, 2016. ISBN-13: 978-0134527338.									
References	 Charlie Kaufman, Radia Perlman, and Mike Speciner, <i>Network Security: Private Communication in a Public World</i>, 2nd Edition, Prentice Hall, 2002. ISBN-13: 978-0130460196. Behrouz A. Forouzan, <i>Cryptography and Network Security</i>, 1st Edition, McGraw-Hill Forouzan Networking, 2007. ISBN-13: 978-0073327532. 									