Course Name	Network Penetration Testing		فحص اختراق الشبكات	
Course Information	**Course Code**	**Course No.**	**Credit Hour**	**Prerequisite(s)**
	0914640	CN 640	3 (3-0-6)	0914612

Course Track	☐ Program Core ☒ Electives

Course Description

Penetration testing enables ethical hackers to legally attempt to locate and exploit computer systems with the intention to make those systems secure. This course covers tools, techniques, and methodologies required for performing network penetration testing. It covers all phases of penetration testing as outlined by different standards such as the Penetration Testing Execution Standard (PTES). Students will be able to build their own penetration testing infrastructure that includes the hardware, software, network infrastructure, and tools needed to conduct penetration tests. The course discusses the tools and techniques required to retrieve sensitive information about a target environment; map the target environment's attack surface by creating a comprehensive inventory of machines, accounts, and potential vulnerabilities; understand different kinds of exploits that penetration testers use to compromise target machines, and post-exploitation activities including gathering information from compromised machines. High-level structure of a penetration test report to document findings will also be discussed in the course.

Course Outcomes

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

1. **Recall** the penetration process from information gathering to an actual system penetration. [A]
2. **Perform** information gathering to facilitate effective network penetration. [B, E]
3. **Use** different approaches to compromise modern network infrastructures. [B, E]
4. **Describe** approaches to evade current attack detection mechanisms deployed in networks. [A]
5. **Present** results of a penetration test in the form of a report. [D]

Assessment Policy	**Assignments**	25%	**Quiz**		**Project**	20%
	Midterm	25%	**Final**	30%	**Others**	-

Textbook	Peter Kim, "*The Hacker Playbook 3: Practical Guide to Penetration Testing*", 3rd Edition, Independently published, 2018. ISBN-13: 978- 1980901754.

References	1. Patrick Engebretson, "*The Basics of Hacking and Penetration Testing: Ethical Hacking and Penetration Testing Made Easy*", 2nd Edition, Syngress, 2013. ISBN-13: 978-0124116443. 2. Georgia Weidman, "*Penetration Testing: A Hands-On Introduction to Hacking*" 1st Edition, No Starch Press, 2014. ISBN-13: 978-1593275648.