

Course Name	Cloud Computing Security		أمن الحوسبة السحابية			
Course Information	Course Code	Course No.	Credit Hour	Prerequisite(s)		
	0914639	CN 639	3 (3-0-6)	0914612		
Course Track	<input type="checkbox"/> Program Core <input checked="" type="checkbox"/> Electives					
Course Description						
As cloud computing increases its footprint throughout the world, unresolved issues related to security and privacy, data integrity and availability are raised. The fundamental question is how to protect the critical data that is increasingly being stored in the cloud? This course explores cloud computing models, thread models and security issues pertaining to cloud-based systems and explores how to build a security strategy that keeps data safe and mitigates risk. The major topics covered include infrastructure security, attacks and attack surfaces in a cloud, data security in clouds, secure computation and outsourcing, privacy in clouds, virtual machine security, trustworthy clouds, cloud forensics, cloud network security, cloud malware and regulatory compliances. The course also discusses industry best practices for cloud security and discusses how to architect and configure security-related features in a cloud platform.						
Course Outcomes						
After the completion of this course, the student will be able to:						
1. <b>Recall</b> fundamental security concerns in cloud computing systems. [A]						
2. <b>Describe</b> the mechanisms used to ensure privacy and trust in cloud computing platforms. [A]						
3. <b>Explain</b> key design considerations when architecting network infrastructure for cloud security. [A]						
4. <b>Evaluate</b> and <b>prepare</b> reports on the threats and security countermeasures of given cloud computing systems. [C, D]						
Assessment Policy	Assignments	15%	Quiz	20%	Project	-
	Midterm	25%	Final	40%	Others	-
Textbook	John R. Vacca, “Cloud Computing Security: Foundations and Challenges”, 1 <sup>st</sup> Edition, CRC Press, 2016. ISBN-13: 978-1482260946					
References	1. Vic (J.R.) Winkler, “Securing the Cloud: Cloud Computer Security Techniques and Tactics”, 1 <sup>st</sup> Edition, Syngress, 2011. ISBN-13: 978-1597495929 2. Ray A. Rothrock, Richard A. Clarke, “Digital Resilience: Is Your Company Ready for the Next Cyber Threat?”, 1 <sup>st</sup> Edition, AMACOM, 2018. ISBN-13: 978-0814439241 3. Tim Mather, Subra Kumaraswamy, Shahed Latif, “Cloud Security and Privacy: An Enterprise Perspective on Risks and Compliance”, 1 <sup>st</sup> Edition, O'Reilly Media, 2009. ISBN-13: 978-0596802769					