



KINGDOM OF SAUDI ARABIA  
IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY  
COLLEGE OF COMPUTER AND INFORMATION SCIENCES  
INFORMATION SYSTEMS DEPARTMENT  
BACHELOR IN INFORMATION SYSTEMS

المملكة العربية السعودية  
جامعة الإمام محمد بن سعود الإسلامية  
كلية علوم الحاسب والمعلومات  
قسم نظم المعلومات  
بكالوريوس نظم المعلومات

## SYLLABUS

### IS1380: Cyber Security

<b>CREDIT HOURS</b>	<b>3 Lecture hours</b>	<b>PREREQUISITE</b>	<b>IS1221</b>
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<b>Instructor:</b>
<b>Contact information and office hours</b>
<b>Office No:</b> To be announced (TBA)
<b>Office Hours:</b> TBA
<b>E-mail:</b> _____@imamu.edu.sa

<b>COURSE DESCRIPTION</b>
The target of the course is to introduce topics related to cybersecurity. The students will learn about cybersecurity terminologies, basic cryptography techniques, access control authorization and authentication, some direct emerging topics of cybersecurity, malicious software, ethical hacking overview, cybersecurity ethics and laws and cybersecurity systems development project.

COURSE LEARNING OUTCOMES (CLOs)		Aligned SOs
1	<b>Knowledge and Understanding</b>	
1.1	Define the fundamental concepts, methods, and practice of cybersecurity.	1(I)
1.2	Outline the key concepts of cybersecurity operating system and strategic defense.	1(I)
1.3	Describe the fundamental issues in designing access control models and authentication.	1(I)



1.4	List the main characteristics of social engineering and malicious software	1(I)
1.5	State cybersecurity regulation, ethics and laws.	4(P)
<b>2</b>	<b>Skills :</b>	
2.1	Explain the basic cryptography concepts.	1(I)
2.2	Plan and organize an information systems cybersecurity development project at introductory level.	2(P)
2.3		
2.4		
2.5		
<b>3</b>	<b>Values:</b>	
3.1	Function effectively on teams to accomplish a common goal.	5(P)
3.2	Present a topic in a compelling manner.	3(P)
3.3		
3.4		
3.5		

**TEACHING Strategies**

Lectures  
Self-Learning

<b>N o</b>	<b>List of Topics</b>	<b>Contact Hours</b>	<b>Self- Learning</b>
1	Introduction to cybersecurity	3	
2	Basic Cryptography	3	
3	Operating System Security	3	2
4	Strategic Defenses	3	2
5	Access Control-Authentication	6	
6	Access Control-Authorization	3	
7	Cybersecurity Emerging topics	6	
8	Social Engineering and malware	3	2
9	Cybersecurity Frameworks, Ethics and Laws	3	
10	Project Discussion	3	
11			
12			
<b>Total</b>		<b>36</b>	<b>6</b>

**TEXT BOOK**



Security in Computing, Fifth Edition; Charles P. Pfleeger Shari Lawrence Pfleeger Jonathan Margulies, Published January, 2015 by Pearson Education; ISBN-10: 0-13-408504-3, ISBN-13: 978-0-13-408504-3

#### REFERENCES

Understanding Cryptography, 1 edition, Christof Paar; Jan Pelzl, Springer, 2010, ISBN 978-3642041006.

Computer Security, 3rd edition, Dieter Gollmann, John Wiley & Sons, 2011, ISBN 978-0470741153.

The Basic of Information Security, Jason Andress, 2014 Elsevier Inc, Second Edition

Course Assessment Methods			
No	Assessment Method	Due Week	% of Total Assessment
1	Quiz	4	10
2	Assignment	9	10
3	Midterm	7	20
4	Project / Lab Exam	11	20
5	Final Exam	13	40