اعتماد
NCAAA

T4

2020

Course Specifications

Course Title:	Ethical Hacking
Course Code:	CYB 0206
Program:	Computer Science (Cybersecurity)
Department:	Applied Sciences
College:	Applied College
Institution:	Imam Muhammad Bin Saud Islamic University

Table of Contents

A. Course Identification

1. Credit hours: 4(3 theory , 2 lab)	

2. Course type

a.   University ☐   College ☐   Department ☑   Others ☐

b.   Required ☑   Elective ☐

3. Level/year at which this course is offered: Fourth semester

4. Pre-requisites for this course (if any)**:**

Cyber203

5. Co-requisites for this course (if any)**:**

None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	4 hours \week	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	33
2	**Laboratory/Studio**	22
3	**Tutorial**	
4	**Others** (specify)	
	Total	55

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers ethical hacking and penetration testing techniques using the latest software, techniques, and methodologies used by hackers and security professionals to lawfully hack an organization. Topics include session hijacking, hacking of web applications and servers, as well as social engineering and denial of services hacking techniques.

2. Course Main Objective

- Demonstrate an understanding of ethical hacking
- Identify possible ways to hack web applications
- Describe several techniques to attack wired and wireless networks
- Explain the concept of social engineering

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Demonstrate an understanding of ethical hacking	ع2
2	**Skills :**	
2.1	Identify possible ways to hack web applications	م3
2.2	Describe several techniques to attack wired and wireless networks	م4
2.3	Explain the concept of social engineering	م5
2...		
3	**Values:**	
3.1		
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to ethical hacking	5
2	Hacking web servers	10
3	Hacking Web Applications	10
4	Session hijacking	5
5	SQL Injection	5
6	Hacking Wireless Networks	10
7	Social engineering	10
Total		55

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Demonstrate an understanding of ethical hacking	Class Discussion Questions/Answers sessions in class Case studies and analysis. Project and students	Quizzes, Exams, Project, Presentation
1.2			
2.0	**Skills**		
2.1	Identify possible ways to hack web applications	Class Discussion Questions/Answers sessions in class Case studies and analysis. Project and students	Quizzes, Exams, Project, Presentation
2.2	Describe several techniques to attack wired and wireless networks	Class Discussion Questions/Answers	Quizzes, Exams, Project, Presentation

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		sessions in class Case studies and analysis. Project and students	
2.3	Explain the concept of social engineering	Class Discussion Questions/Answers sessions in class Case studies and analysis. Project and students	Quizzes, Exams, Project, Presentation
3.0	**Values**		
3.1			
3.2			
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes	Week3,5	10%
2	Midterm	Week 7	20%
3	Lab Assignments group or individual /Class Assignments group or individual	Week4,7,9	15%
4	Lab Evaluations	All Semester	15%
5	Final	Week13	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

6 office hours per week.

3 hours of weekly meetings

Contact through the LMS

Communication/interact via e-mails with students

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Regalado, D. et al. , "Gray Hat Hacking: The Ethical Hacker's Handbook", 2018, 5th Edition
Essential References Materials	Wenliang Du, "Computer & Internet Security: A Hands-on Approach", 2019, 2nd edition
Electronic Materials	Online resources will be provided during class lectures.
Other Learning Materials	N/A

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room with Smart board Lab with 25 Pcs
Technology Resources (AV, data show, Smart Board, software, etc.)	PC and WiFi Internet access within the class room
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	N\A

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Student	Indirect using course evaluation survey
Quality of learning resources	Student and Faculty	Indirect using course evaluation and faculty survey

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	