هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	IT Systems Components
Course Code:	CYB 0102
Program:	Computer Science (Cybersecurity)
Department:	Applied Sciences
College:	Applied College
Institution:	Imam Muhammad Bin Saud Islamic University

Table of Contents

A. Course Identification 3
6. Mode of Instruction (mark all that apply) 3
B. Course Objectives and Learning Outcomes 3
1. Course Description 3
2. Course Main Objective 4
3. Course Learning Outcomes 4
C. Course Content 4
D. Teaching and Assessment 5
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 5
2. Assessment Tasks for Students 6
E. Student Academic Counseling and Support 6
F. Learning Resources and Facilities 7
1.Learning Resources 7
2. Facilities Required 7
G. Course Quality Evaluation 8
H. Specification Approval Data 8

A. Course Identification

1. Credit hours:	**3(2 theory, 2 lab)**
2. Course type	Others ☐
a.	University ☐ College ☐ Department ☑
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered:	Third Semester
4. Pre-requisites for this course (if any)**:**	None
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**	3hours\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**	22
2	**Laboratory/Studio**	22
3	**Tutorial**	
4	**Others** (specify)	
	Total	44

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides a general introduction to common information technology systems components and a general cyber security implication associated with the components.
By the end of the course, students will have a solid understanding of foundational IT concepts, infrastructure components, security principles, and emerging technologies shaping the industry.

2. Course Main Objective

Students should be able to:

1. Identify main IT system components (both hardware and software)
2. Recognize the main functions of the system components depend on the scope of usage.
3. Understand the current and future of IT environments.
4. Explain cyber security implications of IT system.
5. Express cyber security activities in different systems like Network and network systems, protection methods and managements.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Express common cybersecurity systems, components, activities, and their values to cybers	K1
1.2	Explain main cybersecurity implications of the current and future IT environments.	K2
1.3	Express common cybersecurity systems, components, activities, and their values to cybersecurity.	K3
2	**Skills :**	
2.1	Analyze the IT system and improve the skill of dealing with securing the systems.	S1
2.2	Discuss securing the IT environment.	S3
3	**Values:**	
3.1	Work effectively on team to accomplish a specific goal regarding securing IT systems.	V2

C. Course Content

No	List of Topics	Contact Hours
1	Introduction of Information technology, Introduction security, People and Security	4
2	Fundamental aspects • System Architecture • The Operating System • Configuration Management	6
3	Introduction to Computer Networks • Network Mapping • LANs, Internet and Wireless Networks	6
4	Network security. • LANs, Internet and Wireless Networks • Network Mapping • Network Security Components • Intrusion Detection and Prevention Systems	6

5	Hardware security: Endpoint protection Input and Output Devices Storage Devices Physical and Environmental Security	6
6	Software security: Managed Services Incident Response Vulnerability Scanning Patching SCADA, Real-Time and Critical Infrastructures Environments	6
7	Introduction to cloud computing	4
8	Introduction to virtualization	3
9	Fundamentals of the internet of things IoT	3
Total		44

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	Express common n IT system components , common cybersecurity systems, components, activities, and their values to cybers	Class lectures Class Discussion Questions/Answers sessions in class Homework assignments Quizzes Case studies and Analysis.	Quizzes Homework and Assignments. Written exams (Midterm and final). Writing reports.
1.2	Explain main cybersecurity implications of the current and future IT environments.	Class lectures Class Discussion Questions/Answers sessions in class Homework assignments Quizzes Case studies and Analysis.	Quizzes Homework and Assignments. Written exams (Midterm and final). Writing reports. Study cases.
1.3	Express common cybersecurity systems, components, activities, and their values to cybersecurity.	Class lectures Class Discussion Questions/Answers sessions in class Homework assignments Quizzes Case studies and Analysis.	Quizzes Homework and Assignments. Written exams (Midterm and final). Writing reports. Study cases.
2.0	**Skills**		

2.1	Analyze the IT system and improve the skill of dealing with securing the systems.	Class lectures Class Discussion Questions/Answers sessions in class Homework assignments Quizzes Case studies and Analysis.	Quizzes Homework and Assignments. Written exams (Midterm and final). Writing reports. Study cases.
2.2	Discuss securing the IT environment.	Class lectures Class Discussion Questions/Answers sessions in class Homework assignments Quizzes Case studies and Analysis.	Quizzes Homework and Assignments. Written exams (Midterm and final). Writing reports. Study cases.
3.0	**Values**		
3.1	Work effectively on team to accomplish a specific goal regarding securing IT systems.	Class lectures Class Discussion Questions/Answers sessions in class Homework assignments	Quizzes Homework and Assignments. Written exams (Midterm and final). Writing reports.
Code	**Course Learning Outcomes**	**Teaching Strategies**	**Assessment Methods**
		Quizzes Case studies and Analysis.	Study cases.

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	Project		10%
6	Final	Week12	30%

***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	Information Technology An Introduction for Today's Digital World, By Richard Fox,2021, 2nd edition, ISBN 9780367820213. Intrusion Detection and Prevention 1st Edition by Carl Endorf (Author), Gene Schultz (Author), Jim Mellander (Author) Building Cloud and Virtualization Infrastructure: A Hands-on Approach to Virtualization and Implementation of a Private Cloud Using Real-time Use-cases (English Edition) 1st Edition, Kindle Edition by Mrs.Lavanya S (Author), Dr. Venkatachalam K (Author), Dr. Saravanakumar N M (Author) Internet of Things (IoT): Principles, Paradigms and Applications of IoT (English Edition) 1st Edition, Kindle Edition by Dr Kamlesh Lakhwani (Author), Dr Hemant Kumar Gianey (Author), Joseph Kofi Wireko (Author)
Essential References Materials	Information Technology: An Introduction for Today's Digital World February 8, 2013 by Chapman and Hall/CRC, Author(s): Richard Fox.
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
Item	**Resources**
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	