Course Specifications

Course Title:	Digital Forensic
Course Code:	**CSEC 412**
Program:	**B.Sc.**
Department:	**Computer Science**
College:	**College of Science Al Zulfi**
Institution:	**Majmaah University**

Table of Contents

A. Course Identification

1. Credit hours:	
2. Course type	
a. University ☐ College ☐ Department ☐ Others ☐	
b. Required ☐ Elective ☐	
3. Level/year at which this course is offered:	
4. Pre-requisites for this course (if any)**:** Cybersecurity Essentials – ICS326	
5. Co-requisites for this course (if any)**:** **NIL**	

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	48	80 %
2	**Blended**	6	10 %
3	**E-learning**	6	10 %
4	**Correspondence**		
5	**Other**		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	20
3	**Tutorial**	10
4	**Others** (specify)	
	Total	60
Other Learning Hours*		
1	**Study**	20
2	**Assignments**	15
3	**Library**	10
4	**Projects/Research Essays/Theses**	5
5	**Others** (specify)	
	Total	50

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description:

The course specifically covers topics of basic procedures and methodologies for digital forensics that must be mastered and basic theoretical concepts of digital forensics, its practical implementation in the business environment as well as digital forensic processes, hardware forensics, digital forensic tools, forensic readiness, networks forensics, live forensics, professionalism and ethics. You will further gain in-depth knowledge of privacy, cyber forensics, cyber law and cyber warfare and/or terrorism, among other aspects relevant to digital forensics. Acquisition, identification and analysis of evidence, documentation strategies, FAT file system, manual and automated analysis tools, working as an expert witness.

2. Course Main Objective

Students will learn different techniques and procedures that enable them to perform a digital investigation. The objective of this class is to emphasize the importance of digital forensics, and to prepare students to conduct a digital investigation in an organized and systematic way.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Identify and apply sound forensic practices	
1.2		
1.3		
1...		
2	**Skills :**	
2.1	Identify and counter obfuscation and counter-forensic techniques	
2.2	Have in-depth insight on retention characteristics of storage systems for desktop, mobile, and non-standard computing systems	
2.3	Preserve the integrity of seized digital evidence	
2...		
3	**Competence:**	
3.1	Provide technical assistance and guidance in the proper safeguarding and collection of evidence stored in electronic form.	
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Fundamentals of the concepts of computer forensics , computer forensics professional and concepts of computer investigations.	9
2	Computer forensics laboratory and computer forensics tools.	6
3	Crime and incident scenes	9
4	Digital evidence practices.	9
5	Data and image recovery.	9
6	Network monitoring and forensic analysis.	6
7	E-mail recovery and analysis.	6
8	Testimony and reporting.	6
Total		60

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**		
1.1	Identify and apply sound forensic practices	Lectures, Group discussion, Case studies, Individual presentations on different topics.	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
1.2			
…			
2.0	**Skills**		
2.1	Identify and counter obfuscation and counter-forensic techniques	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
2.2	Have in-depth insight on retention characteristics of storage systems for desktop, mobile, and non-standard computing systems	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
2.3	Preserve the integrity of seized digital evidence	Lectures, Individual presentations & Brainstorming exercises	
…			
3.0	**Competence**		
3.1	Provide technical assistance and guidance in the proper safeguarding and collection of evidence stored in electronic form.	Brainstorming Presentations	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
3.2			
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes		10 %
2	Mid Exams		30 %
3	Assignments		10 %
4	Group Discussion, Presentation		10 %
5	Final Exam		40 %
6			
7			
8			

*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 :

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Digital Forensics Basics by Nihad A. Hassan
Essential References Materials	Fundamentals of Digital Forensics by Joakim Kävrestad
Electronic Materials	Determines as the course is going on.
Other Learning Materials	Videos and presentations are available with instructor

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Labs as those that are available at college of science Az Zulfi
Technology Resources (AV, data show, Smart Board, software, etc.)	Smart Board and required software
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

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	