هيئة تقويم التعليم
Education Evaluation Commission
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: Taif University	Date:
College/Department : College of Computers and Information Technology	

A. Course Identification and General Information

1. Course title and code: Digital and Computer Forensics, 502212-3
2. Credit hours:03
3. Program(s) in which the course is offered.
(If general elective available in many programs indicate this rather than list programs)
Master of Cyber Security
4. Name of faculty member responsible for the course

Mahmoud Mostafa

5. Level/year at which this course is offered: 1st Level/2nd Year
6. Pre-requisites for this course (if any):Operating Systems
7. Co-requisites for this course (if any): N/A
8. Location if not on main campus: N/A
9. Mode of Instruction (mark all that apply):

a. traditional classroom	X	What percentage?100	100
b. blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. correspondence		What percentage?	
f. other		What percentage?	

Comments:

B Objectives

1. What is the main purpose for this course?

- Understand the application of digital and computer forensics
- Learn how to collect and analyze computer forensic evidence
- Use the essential tools and methodology of digital Forensics

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

Computer Forensics course presents principles and techniques of conducting computing investigations. Topics include: Forensics Fundamentals, forensic investigation on both Unix/Linux and Windows systems with different file systems, current computer forensics tools, digital evidence controls, network forensics, processing crime and incident scenes, data acquisition, forensic procedures and review and analyze forensics reports.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to Computer Forensics: computer crimes, evidence, extraction, preservation, etc.	01	03
Overview of hardware and operating systems: structure of storage media/devices; windows/Macintosh/ Linux -- registry, boot process, file systems, file metadata.	01	03
Data recovery: identifying hidden data, Encryption/Decryption, Steganography, recovering deleted files.	02	06
Digital evidence controls: uncovering attacks that evade detection by Event Viewer, Task Manager, and other Windows GUI tools, data acquisition, disk imaging, recovering swap files, temporary &cache files	03	09
Computer Forensic tools: Encase, Helix, FTK, Autopsy, Sleuth kit Forensic Browser, FIRE, Found stone Forensic ToolKit, WinHex, Linux dd and other open source tools.	01	03

Network Forensic: Collecting and analyzing network-based evidence, reconstructing web browsing, e-mail activity, and windows registry changes, intrusion detection, tracking offenders, etc.	02	06
Mobile Network Forensic: Introduction, Mobile Network Technology, Investigations, Collecting Evidence, Where to seek Digital Data for further Investigations, Interpretation of Digital Evidence on Mobile Network.	02	06
Software Reverse Engineering: defend against software targets for viruses, worms and other malware, improving third-party software library, identifying hostile codes-buffer overflow, provision of unexpected inputs, etc.	01	03
Computer crime and Legal issues: Intellectual property, privacy issues, Criminal Justice system for forensic, audit/investigative situations and digital crime scene, investigative procedure/standards for extraction, preservation, and deposition of legal evidence in a court of law.	01	03

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planed	**2hrs/week**		2 hours/week			**42**
	Actual						
Credit	Planed	2		1			
	Actual						

3. Additional private study/learning hours expected for students per week. 05

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Understand the application of computer	Text book reading,	Quiz, Test, Lab

	forensics Learn how to collect and analyze computer forensic evidence	Problem solving, Case study, Course Project	exercise, Project Discussion
1.2			
2.0	**Cognitive Skills**		
2.1	Use the essential tools and methodology of Computer Forensics	Problem solving, Lab practice, Case study, Course Project	Quiz, Test, Lab exercise, Project Discussion
2.2			
3.0	**Interpersonal Skills & Responsibility**		
3.1			
3.2			
4.0	**Communication, Information Technology, Numerical**		
4.1	Use the essential tools and methodology of Computer Forensics	Problem solving, Lab practice, Case study, Course Project	Presentation of Project Discussion
4.2			
5.0	**Psychomotor**		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz	03, 06, 09	10%
2	Midterm	08	20%
3	Lab + Homework	04, 08, 11	15%
4	Final	14	40%
5	Course Project	13	15%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

02 hours

E Learning Resources

1. List Required Textbooks

Darren R. Hayes, A practical guide to Computer Forensics Investigation,1st Edition

2. List Essential References Materials (Journals, Reports, etc.)

1. Guide to Computer Forensics and Investigations (4th edition). By B. Nelson, A. Phillips, F. Enfinger, C. Steuart. ISBN 0-619-21706-5, Thomson, 2009. 2. Computer Forensics and Cyber Crime: An Introduction (3rd Edition) by Marjie T. Britz, 2013. 3. Digital Forensics with Open Source Tools. Cory Altheide and Harlan Carvey, ISBN:978-1-59749-586-8, Elsevier publication, April 2011
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. N/A
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) 20 students/class
2. Technology resources (AV, data show, Smart Board, software, etc.) Data show
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) N/A

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching Discussion
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department Discussion, and student survey
3. Processes for Improvement of Teaching Feedback and Course assessment file

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) Course assessment file and coordinator's report
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. Getting feedback from students every three weeks

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____