ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specification

Information Systems Security
14023204-3

Course Specification

Institution **Umm Al Qura University**	Date of Report: **07-1437 / 04-2016**
College/Department **College of Computers and Information Systems** **Information Systems Department**	

A. Course Identification and General Information

1. Course title and code: **Information Systems Security** **14023204-3**
2. Credit hours 3 credits
3. Program(s) in which the course is offered. **Information Systems, Bachelor of Science**
4. Name of faculty member responsible for the course Dr Hassen Sallay
5. Level/year at which this course is offered 3rd year after preparatory year / Level 8
6. Pre-requisites for this course (if any) 14022202-3 Operating systems and Networks 14021101-3 Introduction to IS
7. Co-requisites for this course (if any)
8. Location if not on main campus: Delivered in the four locations where the Information Systems BSc is given: - Al Abidiyya main campus boys section, - Al Zahir main campus girls section, - Al Qunfuda Boys section, - Al Qunfuda Girls section.

9. Mode of Instruction (mark all that apply)

a. Traditional classroom	X	What percentage?	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? This course provides a comprehensive view of information systems security. Information security concepts are introduced like common attacking techniques, common security policies, basic cryptographic tools, authentication, access control, software security, operating system security, and legal and ethical issues in information systems security.
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 to be used for the Bulletin or handbook should be attached)

1 Topics to be Covered

List of Topics	No of Weeks	Contacthours
Information security concepts	3	3
Threats and attacks	3	3
Security requirements and policies	3	3
Cryptography	2	3
Risk management	2	3
Incident management	2	3
Physical security	2	3

2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	48					48
Credit	3					3

3. Additional private study/learning hours expected for students per week.	2

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

Course Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning, assessment, and teaching.

The ***National Qualification Framework*** provides five learning domains. Course learning outcomes are required. Normally a course has should not exceed eight learning outcomes which align with one or more of the five learning domains. Some courses have one or more program learning outcomes integrated into the course learning outcomes to demonstrate program learning outcome alignment. The program learning outcome matrix map identifies which program learning outcomes are incorporated into specific courses.

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. **Fourth**, if any program learning outcomes are included in the course learning outcomes, place the @ symbol next to it.

Every course is not required to include learning outcomes from each domain.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	• Know the basic principles and practices in information systems security.	**Conventional lectures:** The instructor introduces the important concepts of each topic via PowerPoint presentations. The lecture must also contain in-class interaction between the instructor and students and illustrative examples and realistic problems. Lectures can be recorded and put available for students to help them going back to lecture points at home and during revision. **Hand-on Labs**: The instructor ensures some labs to students to help them understanding the practical issues of the course. **Textbook reading assignment**: this helps the students to get more advanced knowledge on the topics under study. **Class session exercises**: Exercises for each topic will help students to learn how to resolve real problems and understand the main concepts. **Practical projects**: practical projects will improve the knowledge of the student with respect to the use and exploitation of course related software and methodologies	There are several way to assess stu this course, which include: 1. **Quizzes** (e.g. online quizzes with Umm al Qura online learning system): this helps the students to make a quick revision of the fundamental concepts studied during formal lectures. They may be graded or not. 2. **Written exams** (midterm and final exams): Exams are the main assessment method to evaluate the understanding of students. 3. **Assignments and homework**: the instructor should make assignments and homework to students for each lecture before going for a subsequent lecture.
1.2	• Acquire knowledge in the foundational theory behind information systems security		
2.0	**Cognitive Skills**		
2.1	understand threats and how to protect an information system	1. Conventional lectures to introduce important concepts through in-class discussions. 2. In-class tutorials which review the content of each lecture and elaborate on any matters not understood.	1. Written exams (mid-term and final). 2. Quizzes. 3. Reading assignments from the textbook Written exams/case studies all require application of the techniques and concepts presented throughout the course.
2.2			
3.0	**Interpersonal Skills & Responsibility**		

3.1	The students must learn how to communicate with each other and how to collaborate to achieve a common task. This will prepare them for working as a group, which is important in any professional environment. They must also show ability to write useful documentation/reports of software projects.	**Group work of course projects:** The students will be asked to work as a group and this enables them to be responsible over the tasks they get assigned. In addition, they will learn how to collaborate together to achieve a common task.	The assessment of interpersonal skills can be assessed during oral presentations of the students in front of the instructor, when they shall explain how to group work has been carried out.
3.2			
4.0	**Communication, Information Technology, Numerical**		
4.1	N/A		
4.2			
5.0	**Psychomotor**		
5.1	N/A		
5.2			

Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching

NQF Learning Domains	Suggested Verbs
Knowledge	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
Cognitive Skills	estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyze, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise
Interpersonal Skills & Responsibility	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write
Communication, Information Technology, Numerical	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize
Psychomotor	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble, experiment, and reconstruct

Suggested ***verbs not to use*** when writing measurable and assessable learning outcomes are as follows:

Consider	Maximize	Continue	Review	Ensure	Enlarge	Understand
Maintain	Reflect	Examine	Strengthen	Explore	Encourage	Deepen

Some of these verbs can be used if tied to specific actions or quantification.

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

5. Schedule of Assessment Tasks for Students During the Semester

Assessment	Assessment task (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	Quizzes	2	10%
2	Midterm Exam	6	20%
3	Case study Project	10	30%
4	Final	16	40%

D. Student Support

1. Arrangements for availability of faculty for individual student consultations and academic advice.
   - Each instructor is required to allocate at least four office hours per week for consultations and academic advice.
   - Each student is assigned an academic advisor to provide general consultation.
   - A mailing list for the course can help the instructors to interact with the students.
   - The emails of instructors must be available for students for possible contact in case of unavailability during office hours.

E Learning Resources

1. Required Text(s) M. E. Whitman and H. J. Mattord, "Principles of Information Security" 4th Edition, Course Technology, ISBN: 1111138214, 2011.
2. Essential References W. Stallings, "Computer Security: Principles and Practice", 2nd Edition, Prentice Hall, ISBN: 0132775069, 2011.
3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)
4-.Electronic Materials, Web Sites etc
5- Other learning material such as computer-based programs/CD, professional standards/regulations

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Lecture rooms, laboratories, etc.) Lecture room with at least 30 seats. Optional but useful facilities include: • A data show projector connected to a PC preferably with Internet connection • sliding board
2. Computing resources
3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list) s

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

End-of-term course/teacher evaluation for is to be completed by students at the end of the semester, evaluating the content of the course, its teaching, the learning, assessment methods.. The monitoring of these students feedback will allows the course quality improvement. In addition, the instructor should make a self-evaluation by proposing an evaluation form to the students that should filled and returned anonymously to provide a feedback to the positive and negatives points observed during the term.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department • Peer Evaluation Procedure • Instructor self-evaluation
3. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent faculty member of a sample of student work, periodic exchange and remarking of a sample of assignments with a faculty member in another institution) • Upon student request, his/her work might be remarked by another faculty member within the department. No regular procedure for verifying standards of student achievement is implemented yet.
4 Processes for Improvement of Teaching The instructor must analyse the feedback from the student he receive from the self-evaluation form and try to adapt the structure/content/organization of the course for better efficiency.
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. • Analysis of student's feedback and identification of weaknesses in the course and in the program to improve them.

Faculty or Teaching Staff: _____

Signature: _____ **Date Report Completed:** _____

Received by: _____ **Dean/Department Head: Dr. Skander Turki**

Signature: _____ **Date: 07-1437 / 04-2016**