



## Course Specifications

<b>Course Title:</b>	<b>Information Security</b>
<b>Course Code:</b>	<b>MIS10804</b>
<b>Program:</b>	<b>Bachelor in Management Information Systems</b>
<b>Department:</b>	<b>Department of Management Information Systems</b>
<b>College:</b>	<b>College of Business Administration</b>
<b>Institution:</b>	<b>Albaha University</b>

## Table of Contents

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

## A. Course Identification

<b>1. Credit hours:</b> 3 Hrs
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> Level 8 / Year 4
<b>4. Pre-requisites for this course (if any):</b> Non
<b>5. Co-requisites for this course (if any):</b> Non

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	%67
2	Blended		
3	E-learning	15	%33
4	Distance learning		
5	Other		

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	-
3	Tutorial	15
4	Others (specify)	-
	<b>Total</b>	45

## B. Course Objectives and Learning Outcomes

### 1. Course Description

This course focuses on the fundamentals of information security that are used in protecting both the information present in computer storage as well as information traveling over computer networks. Interest in information security has been spurred by the pervasive use of computer-based applications such as information systems, databases, and the Internet. By the end of this course, you will be able to describe major information security issues and trends, and advise an individual seeking to protect his or her data.

### 2. Course Main Objective

The main purpose of this course is to provide the concepts, properties, and functions of computer/information systems security and controls. Legal and ethical aspects and management's role in planning the security program are also included.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	Assess the implications of cryptography in terms of privacy, security, and ethical issues.	K1
1.2	Evaluate and compare encryption standards and techniques.	K2
1.3	Define the basic terminology, notation, and concepts of computer security.	K3
2	<b>Skills :</b>	
2.1	Compile, integrate and appraise various methods of encryption information.	S1
2.2	Measure and determine appropriate encryption standards and techniques to suite specific business and technological needs.	S2
2.3	Design security protocols and methods to solve specified security problem.	S3
2.4	Work cooperatively in a small group environment.	S5
3	<b>Values:</b>	
3.1	Analyze strengths and weaknesses in different systems.	V1

### C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Security Meaning of Security, Attacks, Computer Crime, Methods of Defines, Encryption	6
2	<ul style="list-style-type: none"> <li>▪ <b>Cryptography 1</b> Introduction Cryptography, Substitution Ciphers, Transpositions, Encryptions Algorithmes.</li> <li>▪ <b>Cryptography 2</b> Symmetric Encryption, Data Encryption Standards (DES), Advanced Encryption Standards (AES)</li> </ul>	6
3	<ul style="list-style-type: none"> <li>▪ <b>Cryptography 3</b> Public Key Encryption, Hash Functions, Key exchange, Digital Signatures.</li> <li>▪ <b>Viruses and Malicious Code</b> Program security, Control Against Program Threat</li> </ul>	6
4	<ul style="list-style-type: none"> <li>▪ <b>Operating Systems Security</b> Access Control, File Protection, User Authentication, Security Policies, Models of Security</li> </ul>	6
5	<ul style="list-style-type: none"> <li>▪ <b>Database Security</b> Security requirements, Reliability and Integrity, Protecting sensitive data, Multilevel security</li> </ul>	6
7	<ul style="list-style-type: none"> <li>▪ <b>Security in Networks1</b> Threats, Attacks, Protocol Flaws, Impersonation, Spoofing, Denial of Service, Networks security control.</li> <li>▪ <b>Security in Networks 2</b> Firewalls, Intrusion Detection, Secure e-mail</li> </ul>	6
8	<ul style="list-style-type: none"> <li>▪ <b>Risk Analysis and Security Planning</b> Security Policies</li> </ul>	6

	Physical Security	
9	<ul style="list-style-type: none"> <li>▪ <b>Legal and Ethical Issues</b></li> </ul> Protection of data and Information Laws, Employees rights, Software failure, Computer Crime, Privacy, Ethics	3
<b>Total</b>		45

## 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	<b>Knowledge and Understanding</b>		
1.1	Assess the implications of cryptography in terms of privacy, security, and ethical issues.	<ul style="list-style-type: none"> <li>• Lecture, Support readings, group discussions, writing reports, research</li> <li>• Conducting individual tasks, practical training, field training, and presentations</li> <li>Activities and homework</li> </ul>	<ul style="list-style-type: none"> <li>• Midterm and Final exam</li> <li>• Assessing individual &amp; group tasks and presentation and discussions</li> <li>Assessment of activities, participations and homework</li> </ul>
1.2	Evaluate and compare encryption standards and techniques.	<ul style="list-style-type: none"> <li>• Lecture, Support readings, group discussions, writing reports, research</li> <li>• Conducting individual tasks, practical training, field training, and presentations</li> <li>Activities and homework</li> </ul>	<ul style="list-style-type: none"> <li>• Midterm and Final exam</li> <li>• Assessing individual &amp; group tasks and presentation and discussions</li> <li>Assessment of activities, participations and homework</li> </ul>
1.3	Define the basic terminology, notation, and concepts of computer security.	<ul style="list-style-type: none"> <li>• Lecture, Support readings, group discussions, writing reports, research</li> <li>• Conducting individual tasks, practical training, field training, and presentations</li> <li>Activities and homework</li> </ul>	<ul style="list-style-type: none"> <li>• Midterm and Final exam</li> <li>• Assessing individual &amp; group tasks and presentation and discussions</li> <li>Assessment of activities, participations and homework</li> </ul>
2.0	<b>Skills</b>		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1	Compile, integrate and appraise various methods of encryption information.	<ul style="list-style-type: none"> <li>• Testing and training process</li> <li>• Fields studies and group discussion</li> <li>• Individual group tasks</li> <li>• Problem solving tasks and case study</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluating individual and group tasks</li> <li>• Written exams</li> <li>• Assessments of activities and homework</li> </ul>
2.2	Measure and determine appropriate encryption standards and techniques to suite specific business and technological needs.	<ul style="list-style-type: none"> <li>• Testing and training process</li> <li>• Fields studies and group discussion</li> <li>• Individual group tasks</li> <li>• Problem solving tasks and case study</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluating individual and group tasks</li> <li>• Written exams</li> <li>• Assessments of activities and homework</li> </ul>
2.3	Design security protocols and methods to solve specified security problem.	<ul style="list-style-type: none"> <li>• Testing and training process</li> <li>• Fields studies and group discussion</li> <li>• Individual group tasks</li> <li>• Problem solving tasks and case study</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluating individual and group tasks</li> <li>• Written exams</li> <li>• Assessments of activities and homework</li> </ul>
2.4	Work cooperatively in a small group environment.	<ul style="list-style-type: none"> <li>• Promoting students to submit activities, homework and writing reports</li> <li>• Encouraging students to carry small research and surveys.</li> <li>• Encouraging students to use computer-based assignments</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment by written reports.</li> <li>• Assessing activities and homework</li> <li>• Group and individual presentations</li> <li>• Computer and internet-based assignments</li> </ul>
<b>3.0</b>	<b>Values</b>		
3.1	Analyze strengths and weaknesses in different systems.	<ul style="list-style-type: none"> <li>• Promoting students to submit activities, homework and writing reports</li> <li>• Encouraging students to carry small research and surveys.</li> <li>• Encouraging students to use computer-based assignments</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment by written reports.</li> <li>• Assessing activities and homework</li> <li>• Group and individual presentations</li> <li>• Computer and internet-based assignments</li> </ul>

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	4	8%
2	Mid Term Examination	7	30%
3	Quiz 2	10	8%
4	Assignments	13-14	4%
5	Final Examination	15/16	50%

\*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 :**

Instructor will be available for student consultation and academic advice on weekdays during their office hours. Additional assistance by appointment only. (9 hours per week).

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	Charles P. Pfleeger and Shari Lawrence Pfleeger, Security in Computing, 3rd edition, Pearson Prentice Hall, Upper Saddle River, NJ, 2003
<b>Essential References Materials</b>	Computer Security: Art and Science, Matt Bishop, Addison- Wesley, 2003
<b>Electronic Materials</b>	URL: <a href="http://nob.cs.ucdavis.edu/~bishop/">http://nob.cs.ucdavis.edu/~bishop/</a>
<b>Other Learning Materials</b>	

### 2. Facilities Required

Item	Resources
<p><b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)</p>	<p><u>Lecture rooms are well equipped with:</u></p> <ul style="list-style-type: none"> <li>• Air conditioned with at least 20 adequate seats.</li> <li>• Interactive/smart Board.</li> <li>• Up-to-date projector.</li> </ul> <p><u>An Auditorium is well equipped with:</u></p> <ul style="list-style-type: none"> <li>• Air conditioned with at least 100 adequate seats.</li> <li>• Interactive/smart Board.</li> <li>• Up-to-date projector.</li> </ul>
<p><b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)</p>	<ul style="list-style-type: none"> <li>• Personal computer with necessary up-to-date software</li> <li>• DBS Smart Systems</li> <li>• Interactive Board</li> </ul>

Item	Resources
	<ul style="list-style-type: none"> <li>Laptop</li> </ul>
<p><b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)</p>	<ol style="list-style-type: none"> <li>Colored Printer (needed).</li> <li>Central laser-Printer, and Scanner.</li> <li>Wall Boards (are essentially needed.).</li> <li>Internet inside the classroom (missed.).</li> <li>Library: Up to date scientific books, in the library.</li> <li>Wi-Fi and internet connections are available inside the teaching staff rooms, and the seminar room.</li> </ol>

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Evaluation Surveys	Students	Direct
Students-Faculty Meetings	Program leaders	Indirect
Students Assessment of Faculty Members Survey	Students	Direct
Discussions between staff members teaching the course	Faculty	Direct
Internal review of the course at a departmental level	Faculty	Direct
External reviewers	Peer reviewer	Indirect
Course evaluation reports	Program leaders	Direct
Student assessment of faculty reports	Students	Direct
Faculty's on-going training through self/department/faculty and/or University initiated workshops and development programs	Program leaders	Indirect
Marking of assignments and exam submissions are revised by independent teaching staff from within the department and/or other departments within the college	Students	Indirect

**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

<b>Council / Committee</b>	Minutes of the Council of Management Information Systems Department
<b>Reference No.</b>	3
<b>Date</b>	8.12.2021