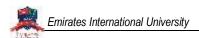# كلية الهندسة وتكنولوجيا المعلومات

Faculty of Engineering and Information Technology

وثيـقــة

مواصفات برنامج أمن المعلومات

Information Security Program Specification

2018-2019

Information Security Program Specifications

Introduction:

In this program the student is educated and gained the skills required to identify, prevent and/or respond to information security. He will learn how information and networking are secured and evaluated. He will also be able to implement the security regulations and standards that will ensure a systems security and integrity of an organizations and apply appropriate solutions.

1. Program Identification and General Information:

Scientific name of the program:	Bachelor of Information Security
Total credit hours required to award the degree	133 Credit Hours
Number of years needed for completion of the program:	4 Years [8 semesters]
The body responsible for granting the degree:	Emirates International University
The body responsible for the program:	Department of Information Security, Faculty of Engineering and Information Technology
Award granted on completion of the program:	Bachelor of Information Security
Study system:	Semester Based system (full-time)
Study Language of the Program:	English
Entry requirements:	High School Certificate – Scientific Section
Departments participating in the program:	Information Technology
Starting year of the program:	2019
Study methods in the program:	Regular [Minimum attendance 75%]
Location of Delivery:	Faculty of Engineering and IT, Emirates International University.
The program resources:	Classrooms Lab [Hardware and Software] Library Others [Academics stuff, ..etc.]
Minimum grade requirements:	As per the admission rules made by ministry of higher education and Scientific Research-Yemen Republic
Other admission requirements:	-As per the admission rules made by ministry of higher education and Scientific Research-Yemen Republic -According to the University Rules and Regulations.
Date of program development:	2018-2019
Prepared by:	Program Development Committee

2. Overview :

The Bachelor of Information Security degree focuses on the practical and theoretical dimensions of it security across a range of fundamental areas, such as application security, information security, human security, networks security, database security, internet security, vulnerability assessment and digital forensics. the graduate of this program could follow a career in different area such as secure software developer, network security administrator, information security analyst, computer security architect, cyber intelligence officer, academician in cyber security (Lecturer, Trainer, Researcher)

3. University Vision, Mission and Goals:

الرؤية:

أن تصبح الجامعة الإماراتية الدولية – اليمن إحدى الجامعات الرائدة وطنياً والمتميزة اقليمياً.

الرسالة:

تسعى الجامعة الإماراتية الدولية – اليمن إلى تقديم خدمة تعليمية وبحثية متميزة تسهم في تلبية احتياجات سوق العمل الوطني والإقليمي من خلال موارد بشرية مؤهلة، وبرامج أكاديمية مجودة، وبحث علمي موجّه لإنتاج المعرفة وتطبيقاتها، وتوفير بيئة جامعية داعمة، وشراكة مجتمعية فاعلة.

الأهداف:

1. **تحسين نظم الحوكمة والإدارة واستكمال شواغر الهيكل التنظيمي، وترسيخ اللامركزية وانتهاج مبادئ الجودة والشفافية.**
2. **التوسع في البُنى التحتية، وتنمية الموارد الذاتية لتحقيق رؤية ورسالة الجامعة وأهدافها الاستراتيجية.**
3. **تحسين جودة ونوعية البرامج الأكاديمية لتلبية احتياجات التنمية .**
4. **تعزيز قيم التنمية المهنية واستثمار الموارد البشرية على أساس مهني وفقاً للإطار الاستراتيجي للجامعة .**
5. **تطوير البيئة الجامعية الداعمة للتعليم والتعلم وبما يحقق الكفايات المهنية للخريج .**
6. **بناء قدرات البحث العلمي وتوجيهه على أساس من التخطيط المرتبط بأهداف التنمية .**
7. **بناء شراكة حقيقية فاعلة مع المجتمع المحلي والجامعات الأخرى وسوق العمل الوطني والدولي**

4. Faculty of Engineering and IT Vision, Mission and Goals:

أ. الرؤية:

الريادة والتميز في التعليم الهندسي والتكنولوجي بما يلبي احتياجات التنمية الشاملة ويحقق المنافسة محلياً واقليمياً.

ب. الرسالة:

تقديم تعليم هندسي وتكنولوجي متميز يسهم في تلبية احتياجات سوق العمل المحلي والإقليمي ومتطلبات التنمية من خلال موارد بشرية مؤهلة وبرامج أكاديمية معتمدة وبحث علمي موجه لإنتاج المعرفة وتطبيقاتها وبيئة جامعية تدعم الابداع والابتكار المعرفي وشراكة مجتمعية فاعلة.

ج. القيم:

قيم كلية الهندسة وتكنولوجيا المعلومات – الجامعة الإماراتية الدولية:

الجودة، التميز، الالتزام بالمعايير الأخلاقية والمهنية، الولاء المؤسسي، العمل الجماعي، الشراكة.

د. الأهداف الاستراتيجية (الغايات):

التوجه الأول:

تحسين نظم الحوكمة والإدارة واستكمال شواغر الهيكل التنظيمي وتطوير البناء التنظيمي في الكلية.

التوجه الثاني:

تطوير البُنية التحتية للكلية، وفقاً لمعايير الاعتماد الأكاديمي وبما يحقق رؤية ورسالة الكلية وأهدافها الاستراتيجية.

التوجه الثالث:

التحسين المستمر في جودة ونوعية البرامج الأكاديمية لتلبية احتياجات التنمية.

التوجه الرابع:

تعزيز قيم التنمية المهنية واستثمار الموارد البشرية في الكلية على أساس مهني وفقاً للإطار الاستراتيجي للكلية.

التوجه الخامس:

خلق توفير بيئة جامعية داعمة للتعليم والتعلم والتفكير العلمي الإبداعي والتطوير الذاتي المستمر.

التوجه السادس:

بناء تطوير قدرات البحث العلمي في الكلية بما يتوائم مع احتياجات المجتمع ومتطلبات التنمية.

التوجه السابع:

بناء شراكة حقيقية فاعلة مع المجتمع المحلي والمؤسسات المناظرة وسوق العمل الوطني والدولي.

5. Department of Information Security Vision, Mission and Goals:

Department Vision:

To be an outstanding department of Information security, recognized by its innovative and high quality education and research.

Department Mission:

To provide a high quality educational and research environment in information security that enables graduates to meet industrial and market demands.

Department Goals:

The department aims to:

1. Provide students with the basic knowledge that enables them to work in various fields of information security.
2. Qualify graduates that contribute in solving society problems related to information security and networks.
3. Develop creative and self-learning skills that keep students up-to-date with information security advancements.
4. Provide students with communication skills that enable them to work individually and/or within teams.
5. Encourage student to adhere to legal, regulations, ethical and social values in their professional practices.
6. Encourage a stimulating academic environment for high quality research and development.
7. Improve and develop program and courses specifications to meet market demands.

6. Program Mission and Goals:

Program Mission:

To provide a high quality educational and research environment that enables graduates to meet market demands and life-long learning to serve community in information security.

Program Goals:

The overall aims of the program are:

1. Provide students with the basic knowledge that enables them to work in various fields of information security.
2. Qualify graduates that contribute in solving society problems related to information security and networks.
3. Develop creative and self-learning skills that keep students up-to-date with information security advancements.
4. Provide students with communication skills that enable them to work individually and/or within teams.
5. Encourage student to adhere to legal, regulations, ethical and social values in their professional practices.

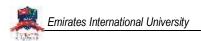## 7. Program Standards& Benchmarks:

A. Academic Standards:

1. Criteria for Accrediting Engineering Technology Programs, 2018–2019, Accreditation Bureau for Engineering and Technology (ABET).
2. Cybersecurity, Curricula 2017, Curriculum Guidelines for Post-Secondary Degree Programs in Cybersecurity, A Report in the Computing Curricula Series, Association for Computing Machinery (ACM) and IEEE Computer Society (IEEE-CS).
3. 1st Level standard of Academic Program Specification (2017), Council for Accreditation & Quality Assurance, Yemen.

B. Government Rules and Regulations:

1. Regulations by the ministry of Higher Education and Scientific Research.
2. The executive regulations of Act No. 13/2005 of the Law of private universities, higher institutes and colleges, Yemen.

C. Program Benchmarks:

1. Information Security, College of computing, National University of Singapore, Singapore.
2. Cyber Security and Digital Forensics, College of Computer Science and Information Technology, Imam Abdulrahman Bin Faisal University, KSA.
3. Cyber Security, SCHOOL OF COMPUTER SCIENCE, BINUS UNIVERSITY, Indonesia.
4. Networks & Information Security, Faculty of Information Technology, Al-Ahliyya Amman University, Jordan.
5. Computer and Information Security, COLLEGE OF INFORMATION TECHNOLOGY AND ENGINEERING, Marshall University, USA.

8. Learning Outcomes:

A. Knowledge and Understanding:

Upon successful completion of an undergraduate Information Security Program, graduates should be able to:

A1. Demonstrate an understanding of concepts, theories, mathematical foundations, techniques and models related to Information Security discipline.

A2. Identify the ethical principles, legal, security and social issues, and regulatory aspects that are relevant to information and computer security professional.

A3. Demonstrate knowledge of information transmission issues, information technology and networks security, distributed and cloud computing, operating systems, system design and programming, web applications, and technical skills.

A4. Explain the information security policies and procedures, project management, data and risk management information systems, network management, and system integration & architecture.

B. Cognitive/ Intellectual Skills:

Upon successful completion of an undergraduate Information Security program, graduates should be able to:

B1 Analyze the local and global impact of ethical principles, legal, security and social issues on individuals, organizations, and society.

B2 Explore and evaluate computer security problems, process, component, and information transmission issues to meet desired needs.

B3 Discus methods, techniques and services requirements that used to improve the performance of secured computing-based solutions.

B4 Propose, design and evaluate appropriate information security based solutions to develop information security policies, tools and techniques to integrate them effectively into the user and organization environment.

C. Practical and Professional Skills:

Upon successful completion of an undergraduate Information Security program, graduates should be able to:

C1. Employ effectively the concepts, principles of computational approaches, computing systems, communication and modern technologies in the security problem-solving processes.

C2. Implement information security procedures, techniques, skills, interpretation of evidence, judgment and modern tools to develop and evaluate secure systems.

C3. Apply information security based solutions for risks management to enhance organization performance.

C4. **Work effectively on IT-project management, programming skills, implementation or simulation tools, operating systems with different platforms, and different applications including web, mobile applications.**
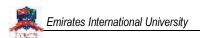
D. General and Transferable Skills:

Upon successful completion of an undergraduate Information Security program, graduates should be able to:

D1. **Work effectively within a team or individually to accomplish a common goal.**

D2. **Engage in a life-long self-learning, time management, leadership and communicate effectively with specialists as well as non–specialists to solve security organization problems.**

D3. **Demonstrate efficient skills in write and present technical reports, research capability, creative thinking, interpersonal relationship skills and Keep up with modern technologies.**

D4. **Use the governmental and environmental regulations to develop Information security policies within an organization based on professional ethics, privacy, security and legal responsibility.**

9. Graduates Attributes:

Upon successful completion of an undergraduate Information Security program, the graduates will be able to:

1. Employ their knowledge of information security, principles, theories, and applications in their job roles.
2. Design, analyze, teste and implement information and network security solutions for their organizations.
3. Install, configure, maintain and manage the operations of network security systems to achieve optimal technical performance and end user support
4. Be aware of the methodologies, techniques, tools and skills necessary for participating, competing and developing strong and cost-effective information and network security solutions and products.
5. Develop knowledge and understanding of the strategies, techniques and technologies used in the investigation of crime involving computers, devices, Internet and associated networks
6. Work effectively within a team or individually in planning, implementing, deploying, configuring, maintaining, and managing practices and technology trends of organization's computing infrastructures.
7. Use efficiently project management, research capability, leadership, communication, interpersonal relationship and life-long learning skills.
8. Demonstrate commitment to highest standards of ethical, legal, security and social responsibilities as professionals in information Security.

10. Teaching and Learning Strategies:

In general, teaching and learning strategies should use a variety of teaching methods, such as:
Active lectures
Tutorials
Seminar/ project/presentation
Interactive class discussions
Exercises and home works
Laboratory based session
Directed self- study/ Independent learning
Problem solving
Team work (group learning)
Case studies

Teaching Strategy	Description
Active lectures	The lectures are conducted in the class. It are provided on a weekly basis. It also showing students what they need to know, the teacher incorporates a variety of formats including lectures and multimedia presentations.
Tutorials	Some courses need to have tutorial sessions to solve problems related to the subjects. the students exchange their knowledge with the teacher.
Seminar/ project/presentation	Assigned project is given to student and he must give a seminar to present his project.
Interactive class discussions	Interactive class discussions are carried out about some aspects. related to the subject. It involves a large or small group activity that encourages students to focus on a topic and contribute to the free flow of ideas. The teacher may begin a brainstorming session by posing a question or a problem, or by introducing a topic. Students then express possible answers, relevant words and ideas
Exercises and home works	Exercises and home works are assigned to students periodically so the students will gain more knowledge about the subjects,
Laboratory based session	Laboratory based sessions are required for some courses to balance between theoretical and practical issues.
Directed self- study/ Independent learning	The student should be directed to some related references to read and summarize some
Problem solving	This allows students to become more active in their learning as they work out which information they need to find out how to solve a particular problem.
Team work (group learning)	The students are assigned to work in a small group as a team on some subjects.

11. Assessment Tools:

Written tests (Mid and final Terms)
Written assignments such as multiple choice questions and Quizzes
Oral exams
Report/Project/ Practical Lab Sessions
Coursework Activities
Home works and assignments
Case studies
Presentations

Assessment Strategy	Description
Written tests (Mid and final Terms)	Mid. term & Final exams for each course is required for all courses except Graduation Projects. These exams will evaluate the extent in which the student understanding of theoretical and applied subjects
Written assignments such as multiple choice questions and Quizzes	Some points are assigned to multiple choice questions and Quizzes in order to asses' student ability to follow the lecturer during the study course.
Oral exams	Oral exams is useful to evaluate the extent of understanding the different subjects of the course.
Report/Project/ Practical Lab Sessions	Assessing students to their ability to write theoretical and lab reports as well as the understanding of organizing the reports. The practical lab sessions are required for some courses.
Coursework Activities	Course work Activities is one of the assessment methods by which it can evaluate students.
Home works and assignments	Home works and assignments will evaluate students according to their ability to explain and illustrate the assignments they are given.
Case studies	Assigning case studies to students is very helpful to assess the extent of understanding the topics.
Presentations	Is an assessment of the ability of organizing and the way of presentation.

12. Project Assessment:

Each project will be assessed by a committee of three members as follows

Item	Marks Distribution
Research project supervisor	60%
Internal examiner: a member of the department teaching staff.	20%
External examiner: a qualified external examiner (either from other departments of the faculty or from another university)	20%
Total	100 %

13. Training Course Assessment:

N/A

14. Alignment of Program Intended Learning Outcomes (PILOs) with Teaching Strategies and Assessment Methods:

PILOs	Teaching Strategy	Assessment Methods
Knowledge and Understanding A1,A2,A3,A4	▪ Lectures, group work, and Interactive class discussions, Tutorials	▪ Written exams, assignment work, Quizzes, submission of reports.
Intellectual Skills B1,B2,B3,B4	▪ Lectures, Tutorial, lab, Interactive class discussions, and group work, presentation	▪ Written exams, Project, Case studies and assignment work.
Professional & practical skills C1,C2,C3,C4	▪ Lectures, group work and case study, Laboratory experiments, Project.	▪ Written exams, Quizzes, Practical exam assignment and report submission.
General & Transferable Skills D1,D2,D3,D4	▪ Self-study, group work and interactive class discussions, Tutorials, Seminar/ project/presentation, Laboratory experiments, Project.	▪ Project presentation, lab exam, Report/Project

15. Intended Learning Outcomes Mapping:

See Annexes 6,7, and 8.

(Annex 6: Alignment of Program Themes with Program Intended Learning Outcomes (PILOs))

(Annex 7: Coding System and Alignment of Courses with Program Intended Learning Outcomes (PILOs))

(Annex 8: Matrix of Mapping Program PILO's With Courses)

16. Program Structure:

No	Requirements		No. of Courses	Credit Hours	Rational Weight %
1	University Requirements	Compulsory	8	13	%9.77
		Elective	-	-	-
2	Faculty Requirements	Compulsory	7	18	%13.53
		Elective	2	6	%4.52
3	Program Requirements	Compulsory	29	87	%65.42
		Elective	3	9	%6.76
	Total:		49	133	%100

16.1. University Requirements (13 hrs)

Compulsory Courses (13 hrs)

No	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites	Level/ Semester
1		Arabic language 1	2	-	-	2		1/1
2		Arabic language 2	2	-	-	2	Arabic language 1	1/2
3		English language 1	2	-	-	2		1/1
4		English language 2	2	-	-	2	English language 1	1/2
5		Islamic Culture	2	-	-	2		1/1
6	EIU113	Computer Fundamentals	2	-	2	3		1/1
7		Arab Israeli Conflict	-	-	-	-		1/1
8		National Culture	-	-	-	-		1/2
		Total Credit				**13**		

16.2. Faculty Requirements (18 hrs)

Compulsory Courses (18 hrs)

No	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites	Level/ Semester
1		Mathematics 1	2	2	-	3		1/1
2		Mathematics 2	2	2	-	3	Mathematics 1	1/2
3		Technical English	2	-	-	2		2/1
4		Communication Skills	2	-	-	2		3/2
5		Scientific Research Fundamentals	2	-	-	2		3/1
6		Project Management	2	-	2	3		3/1
7		Probability & Statistics	2	2	-	3		2/1
		Total Credit				**18**		

16.3. Faculty Requirements – Elective (6 hrs)

Elective Courses (6 hrs)

No	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites	Level/ Semester
1	IT116	Information Technology Fundamentals	2	-	2	3		1/1
2	EIT24	Problem Solving & Critical Thinking	2	-	2	3	Computer Fundamentals	1/2
		Total Credit				**6**		

16.4 Program Major (96 hrs)

		Compulsory Courses (96 hrs)						
No	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites	Level/ Semester
1	IT123	Discrete Mathematics	2	2	-	3	-	1/2
2	IS121	Introduction to Information Security	3	-	-	3	IT116	1/2
3	IS211	Computer Organization and Architecture	2	-	2	3	EIU113	2/1
4	IS212	Computer Programming	2	-	2	3	EIT24	2/1
5	IS213	Database systems	2	-	2	3	EIU113	2/1
6	IS214	Computer Networks	2	-	2	3	IT116	2/1
7	IS215	Information security policies and laws	3	-	-	3	IS121	2/1
8	IS221	Web Design and Development	2	-	2	3	IS212	2/2
9	IS222	Data Structures and Algorithms Analysis	2	-	2	3	IS212	2/2
10	IS223	Object-Oriented and Visual Programming	2	-	2	3	IS212	2/2
11	IS224	Advanced Database	2	-	2	3	IS213	2/2
12	IS225	Operating Systems	2	-	2	3	IS211	2/2
13	IS226	Information Security Management	2	-	2	3	IS121	2/2
14	IS311	Wireless Networking and Security	2	-	2	3	IS121, IS214	3/1
15	IS312	Database Administration and Security	2	-	2	3	IS213	3/1
16	IS313	System Analysis and Design	2	-	2	3	-	3/1
17	IS314	Cryptography	2	-	2	3	IS121	3/1
18	IS321	Internetwork Routing And Switching	2	-	2	3	IS121	3/2
19	IS322	Digital Forensics	2	-	2	3	IS121	3/2
20	IS324	Mobile Applications Security	2	-	2	3	IS212	3/2
21	IS325	Network Security	2	-	2	3	IS121, IS214	3/2
22	IS326	Vulnerability Analysis and risk management	2	-	2	3	IS121	3/2
23	IS411	Elective I	2	-	2	3	-	4/1
24	IS412	Graduation Project I	3	-	-	3	IS315	4/1
25	IS413	Network administration and Management	3	-	-	3	IS325	4/1
26	IS414	Distributed and Cloud Computing	2	-	2	3	IS214	4/1
27	IS415	Cyber Security	3	-	-	3	-	4/1
28	IS421	Elective II	2	-	2	3	-	4/2
29	IS422	Graduation Project II	-	-	-	3	IS412	4/2
30	IS423	Internet Security	2	-	2	3	IS121	4/2
31	IS424	Biometrics authentication	2	-	2	3	-	4/2
32	IS425	Elective III	2	-	2	3	-	4/2
Total						**96**		

16.5 Elective Courses: 3 courses(9 hrs)

		Elective Course (9 hrs)						
No	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites	Level/ Semester
1		Ethical Hacking	2	2	-	3		4
2		Selected topics in security	2	2	-	3		4
3		Information Hiding	2	2	-	3		4
4		IoT Security	2	2	-	3		4
5		E-Commerce	2	2	-	3		4
6		Information System Audit	2	2	-	3		4

17. Study Plan:

Level 1

No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
		Term 1					
1	EIU112	Islamic Culture	2	-	-	2	-
2	EIU123	Arabic language 1	2	-	-	2	-
3	EIU111	English language 1	2	-	-	2	-
4	EIT111	Mathematics 1	2	2	-	3	-
5	IT116	Information Technology Fundamentals	3	-	-	3	-
6	EIU113	Computer Fundamentals	2	-	2	3	-
7	EIUxxx	Arab Israeli Conflict	-	-	-	-	-
		Total Credit Hours				**15**	
		Term 2					
No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	EIUxxx	Arabic language 2	2	-	-	2	EIU123
2	EIT121	Mathematics 2	2	2	-	3	EIT111
3	EIT122	English language 2	2	-	-	2	EIU111
4	IT123	Discrete Mathematics	2	2	-	3	-
5	EIT24	Problem Solving & Critical Thinking	2	-	2	3	IT116
6	IS121	Introduction to Information Security	3	-	-	3	IT116
7	EIUxxx	National Culture	-	-	-	-	-
		Total Credit Hours				**16**	

Level 2

		Term 1					
No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	EIT213	Probability & Statistics	2	-	2	3	-
2	IS211	Computer Organization and Architecture	2	-	2	3	EIU113
3	IS212	Computer Programming	2	-	2	3	EIT24
4	IS213	Database systems	2	-	2	3	EIU113
5	IS214	Computer Networks	2	-	2	3	IT116
6	IS215	Information security policies and laws	3	-	-	3	IS121
7	EIUxxx	Technical English	2	-	-	2	EIT122
Total Credit Hours						**20**	
		Term 2					
No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	IS221	Web Design and Development	2	-	2	3	IS212
2	IS222	Data Structures and Algorithms Analysis	2	-	2	3	IS212
3	IS223	Object-Oriented and Visual Programming	2	-	2	3	IS212
4	IS224	Advanced Database	2	-	2	3	IS213
5	IS225	Operating Systems	2	-	2	3	IS211
6	IS226	Information Security Management	2	-	2	3	IS121
Total Credit Hours						**18**	

Level 3

		Term 1				
No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	IS311	Wireless Networking and Security	2	-	2	3	IS121, IS214
2	IS312	Database Administration and Security	2	-	2	3	IS213
3	IS313	System Analysis and Design	2	-	2	3	IS213
4	IS314	Cryptography	2	-	2	3	IS121
5	IS315	Communication Skills	2	-	-	2	EIT122
6	IS316	Project Management	2	-	2	3	IS121
		Total Credit Hours				**17**	
		Term 2				
No	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	IS321	Internetwork Routing and Switching	2	-	2	3	IS121
2	IS322	Digital Forensics	2	-	2	3	IS121
3	IS323	Scientific Research Fundamentals	2	-	-	2	-
4	IS324	Mobile Applications Security	2	-	2	3	IS212
5	IS325	Network Security	2	-	2	3	IS121, IS214
6	IS326	Vulnerability Analysis and risk management	2	-	2	3	IS121
		Total Credit Hours				**17**	

Level 4

		Term 1					
No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	IS411	Elective I	2	-	2	3	-
2	IS412	Graduation Project I	3	-	-	3	IS315
3	IS413	Network administration and Management	3	-	-	3	IS325
4	IS414	Distributed and Cloud Computing	2	-	2	3	IS214
5	IS415	Cyber Security	3	-	-	3	IS215
Total Credit Hours						**15**	
		Term 2					
No.	Course Code	Course Name	L	T	P	Cr. Hrs.	Prerequisites, Co-requisites
1	IS421	Elective II	2	-	2	3	-
2	IS422	Graduation Project II	-	-	-	3	IS412
3	IS423	Internet Security	2	-	2	3	IS121
4	IS424	Biometrics authentication	2	-	2	3	IS314
5	IS425	Elective III	2	-	2	3	-
Total Credit Hours						**15**	
Program Total Credit Hours						**133**	

18. Distribution of Total Credit Hours:

Level	Term	University Requirements		Faculty Requirements		Program Requirements		Program Electives		Training		Total Cr. Hrs		Total Cr. Hrs./ Level
		No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	
First	First	5	9	2	6	0	0	0	0	-	-	7	15	31
	Second	3	4	2	6	2	6	0	0	-	-	7	16	
Second	First	0	0	2	5	5	15	0	0	-	-	7	20	38
	Second	0	0	0	0	6	18	0	0	-	-	6	18	
Third	First	0	0	2	5	4	12	0	0	-	-	6	17	34
	Second	0	0	1	2	5	15	0	0	-	-	6	17	
Fourth	First	0	0	0	0	4	12	1	3	-	-	5	15	30
	Second	0	0	0	0	3	9	2	6	-	-	5	15	
Total:		8	13	9	24	29	87	3	9	-	-	49	133	133
Percentage:														

** The credit hours of the National Culture and Arab Israeli Conflict not included in this table.

19. Admission Requirements:

1. Admissions to the program shall be made as per the admission rules set by the Ministry of Higher Education and Scientific Research as well as University admission guidelines.
2. General Secondary school certificate (Science Section) or any equivalent certificate with grade as specified in the admission rules made by Ministry of Higher Education and Scientific Research.
3. Pass the aptitude test and personal interview.
4. Any necessary requirement for specialization, decided by the Scientific Section.

20. Attendance and Graduation Requirements:

1. Student attendance should not be less than 75%.
2. Student will graduate after successfully passing all program requirements.
3. Total credit hours for the program is 133 credit hours.
4. Minimum score for any student to pass any credit hours' course is 50% degree.

21. Grading System:

From 90% to 100% of total marks	Excellent
From 80% to less than 90%	Very Good
From 65% to less than 80%	Good
From 50% to less than 65%	Pass
Less than 50%	Poor/Fail

22. Facilities Required for Running the Program:

Sources of learning:
1. Lecture Rooms with facilities such as chairs and tables, data show, Smart Board, etc.
2. Lab with facilities such as chairs and tables, laboratory equipment, hardware and software, data show, Smart Board, etc.
3. Library and study room.
4. Internet

23. Program evaluation and improvement

Stakeholders participated	Assessment method	Sample size
Final year students	Focus group discussions	20%
Graduates	Questionnaires	20%
Academic Staff	Interviews	100%
Employment agencies (views)	Questionnaires	50%
External Examiners	Interviews	100%
Others - CAQA	Interviews/ Documents analysis	100%

24. Program Policies:

Based on University Regulations
1. **(Class Attendance) :** A student should attend not less than 75 % of total hours of the subject; otherwise he/she will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring a proof statement from university Clinic. If the absent is more than 25% of a course total contact hours, student will be required to retake the entire course again.
2. **(Tardy) :** For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he/she will be considered as absent.
3. **(Exam Attendance/Punctuality) :** A student should attend the exam on time. He/she is permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam.
4. **(Assignments & Projects) :** In general one assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time, mostly one week after given the assignment.
5. **(Cheating) :** For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.

6.	**(Plagiarism) :**
	Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he/she will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university or according to the university roles.
7.	**(Other policies) :**
	- Mobile phones are not allowed to use during a class lecture. It must be closed; otherwise the student will be asked to leave the lecture room. - Mobile phones are not allowed in class during the examination. - Lecture notes and assignments might be given directly to students using soft or hard copy.

Signature of Team work

Attach: Appendixes