جامعة الأمير مساعد بن عبدالرحمن
Prince Musaid Bin Abdulrahman University
2011-1432

College of Computing and Informatics

STUDY PLAN PROJECT

BACHELOR OF INFORMATION TECHNOLOGY

September 2023

Introduction

A royal decree was issued by the custodian of the Two Holy Mosques, King Abdullah Bin Abdulaziz – Allah bless his soul on 10/8/2011 to launch the Prince Musaid Bin Abdulrahman University as a government educational institution. Based on the University's vision to align outputs with the market needs, the college of Computing and Informatics was established as one of the first colleges that have three departments: Information Technology, Computer Science, and Computing and Informatics to give graduates the knowledge and skill requirements necessary for the market by providing optimal academic environment that aims to prepare national specialist cadres in the field of computers. There is no doubt that Information Technology has become the main nucleus in the development process inside public and private organizations in the era of technology and information.

The Importance and Reasons for Creating the Program

It is well known that information technology (IT) is the major driver and facilitator for modern economies and societies. The world is witnessing an unprecedented transformation into "Information Societies" and "Knowledge Economies". Many countries have prepared and executed "Information Technology" plans to achieve a strong lead in the new era. KSA is no exception. The Kingdom recently prepared and approved an ambitious Information Technology Plan. One of the major components of this plan is Information Technology Education, which included detailed recommendations for establishing IT programs and colleges to feed the market with trained experts at all levels. Establishing an Information Technology program in PMAU is well in line with the recommendations of the Kingdom plan and the urgent market needs.

Rationales of the program:

The rationales of the Bachelor program in Information Technology at PMAU are summarized in the following points:

1- Contributing to the national strategic communication and IT plan.
2- The importance of information technology job for Saudi institutions and society.
3- The increasing job market needs in the Kingdom of Saudi Arabia for specialized workforce in IT.
4- The constant need in the labor market (public and private) to specialists in information technology.
5- Few numbers of Saudi universities offer BSc programs in IT.
6- The fulfilment of national high-quality projects, which aim to develop the IT in the Kingdom of Saudi Arabia.

Program Objectives

The main goals of the IT program are:

1. Develop a technically proficient workforce capable of carrying out IT solutions to the best practices.
2. Provide students with soft skills and values to effectively communicate and collaborate with others professionally, ethically and legally.
3. Improve students' experience by empowering them with the necessary entrepreneurs' skills to develop innovative IT solutions.

In addition, the IT program aims at building cadres able to:

- Apply various and advanced IT solutions to contribute to the work development and assist establishment to realize their targets.
- Properly manage the enterprise IT resources, both physical and human, to the fullest.
- Cope with the rapid development in IT fields, evaluate and adopt useful methods in IT so as to contribute to the development of Saudi institutions.

- Build, manage, and organize digital contents of IT systems in various Saudi institutions.
- Apply problem-solving skills, and analyze problems to determine the necessary IT data to improve the quality.
- Communicate effectively with team members in the institution and contribute to the decision-making processes.
- Adhere by the rules and work standards, professional, ethical, and legal.
- The development of continuing professional education plans.
- Conducting the scientific and practical research with IT specialists.

Duration of Study in the Program

4 Years Program, 8 Semesters (130 credit hours)

Program Learning Outcomes

Knowledge and Understanding	
K1	Explain the concepts and technologies related to information technology.
K2	Recognize the evaluation and assessment of tasks performed as IT professionals.
K3	Describe and analyze the user needs and computing requirements appropriate to problems' solutions.
Skills	
S1	Apply the concepts, methods, tools and technologies mastered during the academic program.
S2	Apply theories in modelling and designing IT systems using cutting edge tools and technologies.
S3	Apply analysis, design, implementation, testing and evaluation principles of IT solutions to fit industrial requirements.
S4	Carry out the assigned tasks with quality of work in accordance with international standards.
S5	Communicate effectively, both orally and in written form, using appropriate media.
Values	
V1	Identify the needs for continuous development of professional, legal and ethical skills with the ability to engage all group members.
V2	Function effectively on teamwork projects and activities to accomplish a common goal.

Career Opportunities for Graduates of the Program

1. Software Developer
2. Database administrator
3. Network Administrator
4. Web Administrator and Developer
5. Technical support specialist
6. Site programmer and developer
7. Information system administrator
8. IT specialist

Vision

A pioneer college in education and academic research at local and regional levels in the areas of science and information technology and through offering locally and internationally accredited programs using modern learning methods.

Mission

Prepare qualified and skilled students to meet the needs of the labor market in the field of Information Technology and to pursue advanced degrees; by providing outstanding education with the latest and most sufficient knowledge, best practices, and skills in Information Technology.

Program Study Plan

The Bachelor of Information Technology program contains 41 courses, distributed over 8 semesters.

The program is only offered in English.

University Requirements: (34 Credits)

1. **CS001:** Computer Essentials
2. **ENG001**: English Language Skills
3. **CI001**: Academic Skills
4. **MATH001**: Fundamentals of Mathematics
5. **COMM001**: Communication Skills
6. **ISLM101**: ISLAMIC FAITH
7. **ISLM102**: PROFESSIONAL CONDUCT & ETHICS IN ISLAM
8. **ISLM103**: ISLAMIC ECONOMIC SYSTEM
9. **ISLM104**: ISLAMIC SOCIAL SYSTEM

College requirements: (36 Credits)

1. **IT232**: Object Oriented Programming
2. **MATH150**: Discrete Mathematics
3. **SCI101**: General Physics 1
4. **IT241**: Operating Systems
5. **IT244**: Introduction to Database
6. **IT245**: Data Structure
7. **ENG103**: Technical Writing
8. **MATH251**: Linear Algebra
9. **SCI201**: General Physics 2
10. **IT351**: Computer Networks
11. **STAT101**: Statistics
12. **IT499**: Practical Training

Department requirements: (48 Credits)

1. **IT231** Introduction to IT and IS
2. **IT233** Computer Organization
3. **IT352** Human Computer Interaction
4. **IT353** System Analysis and Design
5. **IT354** Database Management Systems
6. **IT361** Web Technologies
7. **IT362** IT Project Management
8. **IT363** Network Management
9. **IT364** IT Entrepreneurship and Innovation
10. **IT365** Enterprise Systems
11. **IT475** Decision Support Systems
12. **IT476** IT Security & Policies
13. **IT485** Professional Ethics in IT
14. **IT487** Mobile Application Development
15. **IT479** Senior Project I
16. **IT489** Senior Project II

Track Requirements: (12 Credits)

Electives:

- *Cloud Computing:*

S. N.	Course Code	Course Title	Credit Hours
1	IT471	Introduction to Cloud Computing	3
2	IT473	Cloud Systems Architecture	3
3	IT481	Cloud Security	3
4	IT483	Cloud System Administration	3

- *Cyber Security:*

S. N.	Course Code	Course Title	Credit Hours
1	IT474	Introduction to Cyber Security and Digital Crime	3
2	IT478	Network Security	3
3	IT484	Wireless Sensor Networks	3
4	IT488	Cyber Forensics	3

- *Internet of Things:*

S. N.	Course Code	Course Title	Credit Hours
1	IT470	Introduction to IoT	3
2	IT472	IoT Network Design	3
3	IT480	Enterprise Internet of Things	3
4	IT482	IoT Security and Privacy	3

Program Structure

#	Course Code	Course Title	Credit hours	Pre-requisites
1	CS001	Computer Essentials	3	-
2	ENG001	English Language Skills	16	-
3	CI001	Academic Skills	2	-
4	MATH001	Fundamentals of Mathematics	3	-
5	COMM001	Communication Skills	2	-
6	IT231	Introduction to IT and IS	3	Pass First Common Year
7	IT232	Object Oriented Programming	3	
8	IT233	Computer Organization	3	
9	MATH150	Discrete Mathematics	3	
10	SCI101	General Physics 1	3	
11	ISLM101	ISLAMIC FAITH	2	
12	IT241	Operating Systems	3	IT233
13	IT244	Introduction to Database	3	IT232
14	IT245	Data Structure	3	IT232
15	ENG103	Technical Writing	3	
16	MATH251	Linear Algebra	3	MATH150
17	SCI201	General Physics 2	3	SCI101
18	IT351	Computer Networks	3	
19	IT352	Human Computer Interaction	3	IT241
20	IT353	System Analysis and Design	3	IT231،IT245
21	IT354	Database Management Systems	3	IT245
22	STAT101	Statistics	3	IT244
23	ISLM102	PROFESSIONAL CONDUCT & ETHICS IN ISLAM	2	
24	IT361	Web Technologies	3	IT352،IT244

25	IT362	IT Project Management	3	IT353
26	IT363	Network Management	3	IT351
27	IT364	IT Entrepreneurship and Innovation	3	IT244
28	IT365	Enterprise Systems	3	IT352
29	ISLM103	ISLAMIC ECONOMIC SYSTEM	2	
30	IT4XX	Elective Course in IT 1	3	Elective Prereq
31	IT4XX	Elective Course in IT 2	3	Elective Prereq
32	IT475	Decision Support Systems	3	IT354
33	IT476	IT Security & Policies	3	IT351
34	IT479	Senior Project I	3	IT354، IT361
35	ISLM104	ISLAMIC SOCIAL SYSTEM	2	
36	IT4XX	Elective Course in IT 3	3	Elective Prereq
37	IT4XX	Elective Course in IT 4	3	Elective Prereq
38	IT485	Professional Ethics in IT	3	IT362
39	IT487	Mobile Application Development	3	IT361
40	IT489	Senior Project II	3	IT479
41	IT499	Practical Training	3	Pass 86 Credits

	Concentration	Course Code	Course Title	Credit Hours	Pre-Requisites
Electives	Cloud Computing	IT471	Introduction to Cloud Computing	3	IT363
		IT473	Cloud Systems Architecture	3	IT363
		IT481	Cloud Security	3	IT471
		IT483	Cloud System Administration	3	IT471
	Cyber Security	IT474	Introduction to Cyber Security and Digital Crime	3	IT363
		IT478	Network Security	3	IT363
		IT484	Wireless Sensor Networks	3	IT474
		IT488	Cyber Forensics	3	IT474
	Internet of Things	IT470	Introduction to IoT	3	IT363
		IT472	IoT Network Design	3	IT363
		IT480	Enterprise Internet of Things	3	IT470
		IT482	IoT Security and Privacy	3	IT470

Program Structure by Levels

First Year

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	CS001	Computer Essentials	3	-
2	ENG001	English Language Skills	16	-
3	CI001	Academic Skills	2	-
4	MATH001	Fundamentals of Mathematics	3	-
5	COMM001	Communication Skills	2	-

Level three

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	IT231	Introduction to IT and IS	3	Pass First Common Year
2	IT232	Object Oriented Programming	3	
3	IT233	Computer Organization	3	
4	MATH150	Discrete Mathematics	3	
5	SCI101	General Physics 1	3	
6	ISLM101	ISLAMIC FAITH	2	

Level Four

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	IT241	Operating Systems	3	IT233
2	IT244	Introduction to Database	3	IT232
3	IT245	Data Structure	3	IT232
4	ENG103	Technical Writing	3	
5	MATH251	Linear Algebra	3	MATH150
6	SCI201	General Physics 2	3	SCI101

Level Five

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	IT351	Computer Networks	3	
2	IT352	Human Computer Interaction	3	IT241
3	IT353	System Analysis and Design	3	IT231؛IT245
4	IT354	Database Management Systems	3	IT245
5	STAT101	Statistics	3	IT244
6	ISLM102	PROFESSIONAL CONDUCT & ETHICS IN ISLAM	2	

Level Six

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	IT361	Web Technologies	3	IT352؛IT244
2	IT362	IT Project Management	3	IT353
3	IT363	Network Management	3	IT351
4	IT364	IT Entrepreneurship and Innovation	3	IT244
5	IT365	Enterprise Systems	3	IT352
6	ISLM103	ISLAMIC ECONOMIC SYSTEM	2	

Level Seven

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	IT4XX	Elective Course in IT 1	3	Elective Prereq
2	IT4XX	Elective Course in IT 2	3	Elective Prereq
3	IT475	Decision Support Systems	3	IT354
4	IT476	IT Security & Policies	3	IT351
5	IT479	Senior Project I	3	IT354؛ IT361
6	ISLM104	ISLAMIC SOCIAL SYSTEM	2	

Level Eight

#	Course Code	Course Title	Credit Hours	Pre-Requisites
1	IT4XX	Elective Course in IT 3	3	Elective Prereq
2	IT4XX	Elective Course in IT 4	3	Elective Prereq
3	IT485	Professional Ethics in IT	3	IT362
4	IT487	Mobile Application Development	3	IT361
5	IT489	Senior Project II	3	IT479
6	IT499	Practical Training	3	Pass 86 Credits

Program Courses Descriptions

Course Title	Computer Essentials
Course Code	CS001
Pre-requisite(s)	None
Credit hours	3
Contact hours	3
Course Description	This course is an essential guide to computing concepts and provides the learner with a complete learning solution focusing on the most important, essential, and current concepts of information technology. Students are given a streamlined, concise, relevant approach to the fundamental issues surrounding the world of computing through a balance between theory and applied learning of these important topics.

Course Title	English Language Skills
Course Code	ENG001
Pre-requisite(s)	None
Credit hours	16
Contact hours	16
Course Description	The 4 weekly hours of contact time with the English instructors aims to support, compliment and reinforce the student's online learning. The contact hours serves as an essential support component such that students are guided throughout their English studies. In addition, a course textbook has been selected to support the students learning. The Q:Skills series from world famous Oxford University press has been chosen as the official textbook of the course which students purchase from a distributor. The textbook is an e-book which an adaptive book rather than the traditional textbook. The Q:Skills series is one of the leading EFL course textbooks available in the current marketplace. The Q:Skills series (Reading and Writing and Listening and Speaking). Clearly identified learning outcomes focus students on the goal of instruction, while thought-provoking unit questions provide a critical thinking framework. In this regard, the skills of reading, writing, are covered in the first two hours of face two while the listening and speaking book will be covered in the second portion of the face to face class. Therefore, all four skills are covered effectively. Thus, the overall goal of developing the students' ability to communicate as effectively as possible in the English language.

Course Title	Academic Skills
Course Code	CI001
Pre-requisite(s)	None
Credit hours	2
Contact hours	2
Course Description	يهدف هذا المقرر إلى مساعدة الطالب على إدارة ذاته وقدراته وإمكاناته بصورة تقوده إلى النجاح والتفوق والإبداع واكتساب عدد من الاستراتيجيات والأدوات البحثية وأدوات التعلم والتفكير بصورة إيجابية سليمة واستخدام سلسلة من الأدوات الحقيقية والاستراتيجية الفاعلة، التي تساعده على تحصيل المعرفة، وتنظيمها وسرعة استدعائها وإعداد البحوث العلمية وعرضها. كما يهدف المقرر إلى تعزيز أدوات واستراتيجيات التعلم الذاتي وأنماطه وطرقه وكذلك أدوات واستراتيجيات التعلم في بيئات التعلم الالكترونية.

Course Title	Fundamentals of Mathematics
Course Code	MATH001
Pre-requisite(s)	None
Credit hours	3
Contact hours	3
Course Description	This course will address the outcomes of introductory and intermediate algebra. Topics include: basic algebraic properties, integers, simplifying and factoring polynomials, solving and graphing linear equations and inequalities, solving systems of equations in two and th ree variables, functions, rational expressions, quadratic and rational equations and inequalities, absolute value, graphing systems of equations and inequalities, and other selected topics. Applications will be emphasized, and numeric, algebraic, and graphical modes will be used.

Course Title	Communication Skills
Course Code	COMM001
Pre-requisite(s)	None
Credit hours	2
Contact hours	2
Course Description	• تعريف طبيعة الاتصال وعناصره وأنواعه وخصائصه وأهدافه وكفاءة الاتصال ومعيقاته وأدواته, العلاقة بين الاتصال اللغوي والاتصال غير اللغوي. • مفهوم الذات, والإفصاح عن الذات. • مهارة الإقناع, المقابلات الشخصية, القدرات الشخصية التي تسعى إليها القطاعات. • مهارة كتابة السيرة الذاتية. • مهارة الإلقاء والعرض الفعال.

Course Title	Introduction to IT and IS
Course Code	IT231
Pre-requisite(s)	Pass First Common Year
Credit hours	3
Contact hours	3

Course Description	This course is an introductory course in information technology and information systems technology. Topics include basic hardware, software, data and an overview of the use of information technology in organizations. This course also provides an understanding of information systems and outlines the concepts of how information systems can provide a competitive advantage. The course will also discuss the management challenges facing organizations today and how they affect business and society.

Course Title	Object Oriented Programming
Course Code	IT232
Pre-requisite(s)	Pass First Common Year
Credit hours	3
Contact hours	3
Course Description	This course is to introduce the students to the principles of computer analysis of problems, design of algorithms, programming, and testing using the Java programming language. Topics include problem analysis basics of programming, data types, control structures, functions, arrays, object-oriented programming, inheritance, recursion and the mechanics of running, testing, and debugging.

Course Title	Computer Organization
Course Code	IT233
Pre-requisite(s)	Pass First Common Year
Credit hours	3
Contact hours	3

Course Description	This course offers a comprehensive understanding of the structure of computational systems. This course deals with the nature of computer hardware. The course will cover the structure of current computer systems at the level of functional organization, the representation of data and programs, the design of the memory hierarchy, and the design of the I/O system. This course also will introduce basic assembly language.

Course Title	Discrete Mathematics
Course Code	MATH150
Pre-requisite(s)	Pass First Common Year
Credit hours	3
Contact hours	3
Course Description	This course introduces students to fundamental algebraic, logical and combinatorial concepts in mathematics. Topics include Boolean Logic, Predicate Logic, sets, mapping, relations, elementary counting principles, algorithm & proof techniques, graphs, and recursions.

Course Title	General Physics 1
Course Code	SCI101
Pre-requisite(s)	Pass First Common Year
Credit hours	3
Contact hours	3

Course Description	This course introduces students to fundamental concepts in physics. Topics include Motion in one dimension; Vectors; Motion in two dimensions; Laws of motion; Circular motion; Potential energy and conservation of energy, Linear momentum; collision; Rotation of a rigid body; Rolling motion; Law of gravity and various types Waves.

Course Title	ISLAMIC FAITH
Course Code	ISLM-101
Pre-requisite(s)	Pass First Common Year
Credit hours	2
Contact hours	2
Course Description	التعريف بالعقيدة الإسلامية وأهم مصطلحاتها، ومصادرها، وأركان الإيمان ، وأهم التحديات التي تواجه العقيدة الإسلامية.

Course Title	Operating Systems
Course Code	IT241
Pre-requisite(s)	IT233
Credit hours	3
Contact hours	3

Course Description	This is an introductory and core course in Bachelor of Science in Information Technology program which familiarizes students with the principles and underlying concepts of operating systems. The focus of this course is to understand the underlying technologies that make contemporary operating systems work efficiently. System Architecture, Processes, threads, synchronization, I/O, file systems, memory and storage management, Protection and Security techniques will be explored in depth.

Course Title	Introduction to Database
Course Code	IT244
Pre-requisite(s)	IT232
Credit hours	3
Contact hours	3
Course Description	In this course, students will be introduced to the following topics: basic concepts of database systems and architectures including Database Management Systems (DBMS) Types (Relational, Hierarchical, NoSQL Databases, Object-Based, Object-Oriented and Distributed), Entity-Relationship model, Data models (Relational model & SQL), Database design (Database dependencies and normalization), Database implementation, and Database Security Models. Students will learn about Database implementation using modern Database Management System tools. This course will provide knowledge, skills and abilities to manage, use and protect database systems.

Course Title	Data Structure
Course Code	IT245
Pre-requisite(s)	IT232
Credit hours	3

Contact hours	3
Course Description	In this course, students will be taught to work on complex data structures and algorithms. It includes key data structures including stacks, queues, linked lists, binary trees, recursion and examples using some fundamental algorithms of computer science. Java programming languages will be used. Course is designed keeping in mind the need to make students understand concepts related to data representation and organization in development of software products and services. The students are taught advanced algorithmic concepts such as time and space complexity, searching algorithms and sorting algorithms etc.

Course Title	Technical Writing
Course Code	ENG103
Pre-requisite(s)	Pass First Common Year
Credit hours	3
Contact hours	3
Course Description	This course offers a general overview on principles and procedure of technical writing; attention to analyzing audience and purpose, organizing information, designing graphic aids, and writing such specialized forms as abstracts, instructions, and proposals. Students systematize and organize knowledge in ways that will help them in all of their courses. The course also emphasizes the elements of good writing style, appropriate grammar and mechanics, clarify of language and logical and cohesive development.

Course Title	Linear Algebra
Course Code	MATH251
Pre-requisite(s)	MATH150
Credit hours	3

Contact hours	3
Course Description	Topics include systems of linear equations, their applications, and solutions. Matrices, vectors, elementary operations on vectors, linear independence, spanning sets, and bases. Eigenvalues, eigen-vectors, and eigenspaces will be discussed. Example applications will be given, especially, in IT systems.

Course Title	General Physics 2
Course Code	SCI201
Pre-requisite(s)	SCI101
Credit hours	3
Contact hours	3
Course Description	This course is the logical extension of General Physics 1. It introduces students Interference, diffraction, and polarization, magnetic fields; electromagnetic waves; The four Maxwell's equations; modern Physics and applications, Molecules and solids; Semiconductors and semiconductors devices.

Course Title	Computer Networks
Course Code	IT351
Pre-requisite(s)	
Credit hours	3

Contact hours	3
Course Description	This course explores fundamental concepts in the design and implementation of computer communication networks and their protocols. This includes layered network architectures, applications, transport, congestion, routing, data link protocols, local area networks. An emphasis will be placed on the protocols used in the Internet. Face to Face (F2F) and Virtual (online) classes will each be held once per week. Please refer to your class schedule for the days and times of these classes. Your teacher will give you instructions on how to join a virtual classroom. Attendance to these classes is mandatory and to pass this course you must attend all the sessions.

Course Title	Human Computer Interaction
Course Code	IT352
Pre-requisite(s)	IT241
Credit hours	3
Contact hours	3
Course Description	This course introduces the basics of Human Computer Interaction (HCI). It investigates the process of interaction design by highlighting the cognitive, social, and emotional aspects of human computer interaction. The course also explores data gathering, analysis, and interpretation techniques along with discovering requirements for user interfaces. It also covers user interaction design, construction, and evaluation techniques and models. The contents of course encourage the students for application of the acquired knowledge in assignments and projects thus enabling them for successful delivery of usable user interfaces.

Course Title	System Analysis and Design
Course Code	IT353
Pre-requisite(s)	IT231،IT245
Credit hours	3

Contact hours	3
Course Description	This course introduces the modeling techniques and the fundamental principles of problem analysis and software design as core concepts in software engineering discipline. The course concentrates on object oriented approaches for modelling software requirements and leading to software design. The course is designed to integrate theoretical concepts of system analysis and design with practical examples and case studies. Students will be enabled to understand the practical techniques of software analysis, design, implementation, and maintenance. The course also elaborates different related concepts such as requirements determination, database design, characteristics of analyze and design internet-based systems, and factors affecting maintenance process.

Course Title	Database Management Systems
Course Code	IT354
Pre-requisite(s)	IT245
Credit hours	3
Contact hours	3
Course Description	This course is intended to make the students practically proficient in using standard state-of-the-art database management systems for the development of organizational databases. In this course, students would study the following topics: DBMS architecture and administration; centralized and client-server approaches, system catalogue and data dictionary, transaction management; concepts, characteristics, processing, recovery techniques, concurrency control techniques, DB security, and object-oriented databases.

Course Title	Statistics
Course Code	STAT101
Pre-requisite(s)	IT244
Credit hours	3

Contact hours	3
Course Description	This course introduces the student to statistics with business applications. The course covers both descriptive and inferential statistics. Topics included are: measures of central tendency; measures of dispersion; graphical displays of data; linear regression; basic probability concepts; binomial and normal probability distributions; confidence intervals; and hypothesis testing of mean, proportion for one or two populations. The course also covers ANOVA and hypothesis tests for Goodness of Fit. These topics will be covered using a basic knowledge of algebra and Microsoft Excel.

Course Title	PROFESSIONAL CONDUCT & ETHICS IN ISLAM
Course Code	ISLM-102
Pre-requisite(s)	None
Credit hours	2
Contact hours	2
Course Description	ويهدف المقرر إلى ترسيخ الأخلاق الإسلامية وأخلاق المهنة في سلوك الطلاب لا سيما في الجوانب الاجتماعية والمهنية .

Course Title	Web Technologies
Course Code	IT361
Pre-requisite(s)	IT352،IT244
Credit hours	3

Contact hours	3
Course Description	This course is an overview of the modern Web technologies used for Web development. The topics include HTML5, CSS3, JavaScript, DOM, XML, Rich Internet Applications (RIAs) with AJAX, serverside programming using PHP, and designing and manipulating web databases. Upon completion, students should be able to: 1. Describe methods and tools in web development. 2. Create web pages using HTML5 and CSS3. 3. Develop dynamic web pages using JavaScript. 4. Design XML Schemas and documents. 5. Create Rich Internet Applications. 6. Build web applications using PHP and MySQL.

Course Title	IT Project Management
Course Code	IT362
Pre-requisite(s)	IT353
Credit hours	3
Contact hours	3
Course Description	This course is developed to provide the students with the needed knowledge, and skills for perform as project managers in the field of computing. This course covers detailed topics of the basic concepts of project management in computing, including initiating, planning, controlling, executing, and closing projects. The course also shows how that type of projects should be managed, from inception to post implementation review. This course will help improve management skills and abilities to define the project scope, create a workable project plan, and manage within the budget and schedule.

Course Title	Network Management
Course Code	IT363
Pre-requisite(s)	IT351

Credit hours	3
Contact hours	3
Course Description	This course prepares the graduating students to assume positions of network administrators in medium to large organizations. We study performance-tuning options and monitoring techniques. The course covers both large local-area networks and broadband networks. Special focus will be on network management applications with focus on performance optimization, fault management, and security management. Also, hardware-oriented management protocols such as the three versions of the SNMP protocol and tools for managing software applications will be covered. This course will also cover the management of broadband network services and technologies. We interest in describing and managing the Wide Area Network technologies such as ATM and MPLS. Then, we manage the wired broadband network access technologies including cable, ADSL, and PON. Finally, we focus on the management of the wireless broadband network access technologies.

Course Title	IT Entrepreneurship and Innovation
Course Code	IT364
Pre-requisite(s)	IT244
Credit hours	3
Contact hours	3
Course Description	This course assists students to develop necessary entrepreneurial skills to start and operate a business, by increasing the knowledge about opportunities for business ownership and the ability of planning effectively to start and grow a business. Students will explore the traits and characteristics of successful entrepreneurs and develop essential skills in research, planning, operations, and regulations affecting business. In addition, this course highlights the innovation practices in IT and its relevant patents and Intellectual Property Rights (IPR's). The capstone event for this course is the development and presentation of a formal business plan suitable for submission to potential backers.

Course Title	Enterprise Systems
Course Code	IT365

Pre-requisite(s)	IT352
Credit hours	3
Contact hours	3
Course Description	This course introduces various Enterprise Systems (ES) for effective and efficient organizational business processes. This course deals with both the theoretical and practical aspects of Enterprise Systems. Students will be familiarized with the development life cycle of ES and the critical challenges associated with them. They will gain experience in the success factors, strategies, and policies leading to the successful integration of ES and the decision-making process associated with these systems. Students will learn ES reengineering best practices to analyze organizational real-world work systems and identify ways for improving them.

Course Title	ISLAMIC ECONOMIC SYSTEM
Course Code	ISLM103
Pre-requisite(s)	None
Credit hours	2
Contact hours	2
Course Description	يتمثل الهدف الرئيسي للمقرر بتعريف الطالب بمفهوم القضايا الاقتصادية واهمية دراستها كمدخل للمقرر وبتعريف التامين واركانه وخصائصه وبورصة الأوراق المالية وانواعها واحكامها وغسيل الأموال ومفهومه واثاره والخصخصة واشكالها وضوابطها والعولمة الاقتصادية واثارها الإيجابية والضارة ومفهوم التكامل الاقتصادي ومراحله وعوامل التكامل ومفهوم التضخم الاقتصادي وسبل التغلب على التضخم الاقتصادي .

Course Title	Decision Support Systems
Course Code	IT475
Pre-requisite(s)	IT354
Credit hours	3

Contact hours	3
Course Description	Decision support systems play a key role in today's organizations. These systems not only help organizations to take effective and useful decisions but also insulates them from the effects of wrong decisions. This course is devoted to introducing decision support systems, showcasing their relationship to other computer-based information systems, demonstrating DSS development approaches, and demonstrating how to utilize DSS capacities to support different types of decisions. The topics covered in this course include and are not limited to, introduction to decision support systems, DSS components, developing DSS, DSS models, emerging technologies in DSS, business intelligence, data analytics, data visualization big data, deep learning, and AI-based DSS.

Course Title	IT Security & Policies
Course Code	IT476
Pre-requisite(s)	IT351
Credit hours	3
Contact hours	3
Course Description	This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

Course Title	Senior Project I
Course Code	IT479
Pre-requisite(s)	IT354، IT361
Credit hours	3

Contact hours	3
Course Description	This course will equip undergraduate Information Technologies students with the basic skills to conduct researches in the field of Information Technologies. The course aims to introduce the required techniques for conducting a research, implementing systems, writing technical reports and the skills for presenting the work for audiences. This course will particularly focus on topics which are related to the field of information technologies. The course will also provide guidance to the students in selecting their projects, understanding the research process as well as the tools needed to support implementing the system and writing its documentation. The course discusses other issues including research methods that are normally used in researches such as experiments, survey, interview and simulations, understanding the importance of literature review, preparing visual presentations and other ethical issues such as plagiarism

Course Title	ISLAMIC SOCIAL SYSTEM
Course Code	ISLM-104
Pre-requisite(s)	None
Credit hours	2
Contact hours	2
Course Description	يتعرف الطالب على المجتمع المسلم , وأسس بناء المجتمع وعناية الاسلام به , ومعرفة طرق تقوية الروابط الاجتماعية , وسمات المجتمع الاسلامي وحقوق الانسان , واسس بناء الاسرة المسلمة ومكانتها .

Course Title	Professional Ethics in IT
Course Code	IT485
Pre-requisite(s)	IT362
Credit hours	3

Contact hours	3
Course Description	Professional Issues in IT is the basic course to understand moral values in practical life activities. This course will be helpful to understand the ethics of computing, licensing, and certification. This course covers the impact of intellectual property on computing technology. Government and network communication privacy is also covered by this course.

Course Title	Mobile Application Development
Course Code	IT487
Pre-requisite(s)	IT361
Credit hours	3
Contact hours	3
Course Description	The evolution of computing and IT technologies in the domain of wireless computing has spawned a new horizon of opportunities in the form of mobile smartphone applications. These applications provide users with flexibility, mobility, and enhanced usability features. The future of IT applications can only be secured by developing their mobile and smartphone versions. This course aims to provide students with basic and fundamental knowledge of mobile computing. This includes the effective techniques involved and networks & systems issues for designing and implementing mobile computing systems and applications. This course also provides an opportunity for students to understand the key components and technologies involved and to gain hands-on experience in building mobile applications. Students will gain knowledge about mobility management, location estimation, location-aware computing, user experience, and other topics.

Course Title	Senior Project II

Course Code	IT489
Pre-requisite(s)	IT479
Credit hours	3
Contact hours	3
Course Description	This a continuation of the graduation project started in IT490. The focus will be in this part on low-level design, implementation, testing and quality assurance as well as management of the project. The outcome of this project must be a significant information system, employing knowledge gained from courses through the curriculum. Students must deliver the code, a final report and must do a presentation of their work as well as a demo.

Course Title	Practical Training
Course Code	IT499
Pre-requisite(s)	Pass 86 Credits
Credit hours	3
Contact hours	3
Course Description	A summer period of 8 weeks spent as a trainee in industry, business, or government agencies for the purpose of familiarizing the student with the real job world and enabling him to apply and relate his academic knowledge to a real work environment.

Course Title	Introduction to Cyber Security and Digital Crime
Course Code	IT474

Pre-requisite(s)	IT363
Credit hours	3
Contact hours	3
Course Description	This is an introductory course that explains the fundamentals of cybersecurity on how to ensure the secrecy of information and how to provide protection against major security threats. Topics include information security principles, overview of computer security, assessing risk and vulnerability, applying proper access controls, and discussion of the importance of cryptography.

Course Title	Network Security
Course Code	IT478
Pre-requisite(s)	IT363
Credit hours	3
Contact hours	3
Course Description	This course will provide a practical survey of network security applications and standards. The emphasis is on applications that are widely used on the Internet and for corporate networks, and on standards (especially Internet standards) that have been widely deployed. In addition, this course will provide a deep understanding of how modern networks are designed, their weak points, and both traditional and future approaches to make them resilient. The topics include amongst others physical network security, router mechanisms for security, enterprise network security, IP security, data center operations protection and relevant protocols.

Course Title	Wireless Sensor Networks
Course Code	IT484

Pre-requisite(s)	IT474
Credit hours	3
Contact hours	3
Course Description	A wireless sensor network (WSN) generally consists of compact low power sensors, which collect information and pass the information via wireless networks to achieve a high level of desired monitoring and control in coordinated manners. With increased mobility comes greater danger of system malfunctions which can expose several vulnerabilities and dangers to our safety and wellbeing. This course exposes the students with fundamental concepts of wireless sensor networks and their applications. This course covers fundamentals of wireless network technology and distributed sensor networks.

Course Title	Cyber Forensics
Course Code	IT488
Pre-requisite(s)	IT474
Credit hours	3
Contact hours	3
Course Description	The main objective of the course "Cyber Forensics" is to equip students with the knowledge and skills necessary to effectively contain and combat different forms of cybercrime. The course focuses on providing students with tools and techniques to protect the security of an organization's IT assets, considering the critical importance of data protection and security in today's business world. Major topics covered in the course include defining cyber forensics, understanding privileged communication, utilizing computer forensics tools, and managing file systems.