

متطلبات قسم تقنية المعلومات

أساسيات تقنية المعلومات IT121 (Fundamentals of Information Technology)	متطلب سابق
<p>This course gives students the main concepts of Information Technology (IT), and how the new IT is changing the current business environment. It addresses the major principles for preparing the students to understand the role of IT in the digital economy and consider the significance of IT management with highlighting the need to succeed in the emerging digital economy. The course is aimed at Understanding Information Systems that Support Organizational Performance. In addition to explain the utilization of Web, Wireless, and Social Media Strategies. It is designed to cover the Information Systems in the 2010s, IT Infrastructure and Support Systems, IT Security, Crime, Compliance, and Continuity. It covers also the E-Business and E-Commerce, Mobile Computing and Commerce, Web 2.0 and Social Media.</p>	<p>----- متطلب مصاحب -----</p>
إدارة تقنية المعلومات IT221 (Information Technology Management)	متطلب سابق
<p>In information technology management course, students will be introduced to topics dealing with managing ICT resources in organizations. In addition to explain the utilization of the new emerging trends for operational and enterprise systems, it discuss the managing it, business processes, and social/ecology responsibility. This course is designed to cover the operational planning and control systems, enterprise information systems and business intelligence and decision support. It also comprises the issues and challenges of IT strategic planning, business process management and systems development and global ecology, ethics, and social responsibility. The course will prepare students to understand different careers in IT and emphasize the importance of Enterprise Systems for Management which will be taken in the other advanced course such as Advanced IT and ERP.</p>	<p>----- متطلب مصاحب -----</p>
الهياكل المنقطعة CS212 (Discrete Structures)	متطلب سابق
<p>This course will provide students with fundamental concept Discrete Structures. This course will cover various topics to provide student with a clear, accessible introduction to Discrete Structures. Topics include Mathematical Logic, sets,</p>	<p>-----</p>

relations, Mathematical proofs, Mappings, graphs and their operations. Some methods will be used in the teaching of this course, such as: lectures, problem-solving, Brainstorming, micro- assignments and micro-report.	متطلب مصاحب

(Database Systems Design) تصميم نظم قواعد البيانات CS221	متطلب سابق
There are two principle goals for this course. First, to introduce the basic concepts in selected database issues such as database design using normalization, database security, transaction management and replication and mobile databases. Second, to provide practical experience in applying and using the SQL/PLSQL and Oracle 9i and require introduction to database.	-----
	متطلب مصاحب

(Principles of Data Communication and Network) مبادئ تراسل البيانات والشبكات CS223	متطلب سابق
This course presents an introduction to data transmission , transmission media, basic fundamentals, network topologies (both local area networks and wide area networks) and protocols, the Internet and OSI models, current network operating systems, network analysis, design, and administrative. An emphasis will be placed on current technologies for optimum network design.	-----
	متطلب مصاحب

(Systems Analysis and Design) تحليل وتصميم النظم IS223	متطلب سابق
Information system development has traditionally been an art and is undergoing rapid change. Amidst this volatile environment, a few basic ideas and approaches emerging over the past several years have demonstrated considerable staying power and influence. This course will introduce these ideas. Both concepts and techniques will be covered, reinforced by homework assignments and a project. The course material encompasses the concepts, tools, and techniques required to analyze and design business information systems. The course will include structured development approaches and the system development life cycle, as well as rapid application development through alternative approaches such as Agile and prototyping. Emphasis will be given to the role of information systems in organizations and how they relate to organizational objectives and structure. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.	-----
	متطلب مصاحب

متطلب سابق	IT221 تطوير تطبيقات الويب (Web Application Development)
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متطلب مصاحب	

متطلب سابق	IT312 مواءمة الإنسان مع الحاسوب والبرمجة المرئية (Human Computer Interaction and Visual Programming)
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متطلب مصاحب	

متطلب سابق	IT313 تقنية المعلومات المتقدمة (Advanced IT)
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متطلب مصاحب	

متطلب سابق	IT321 تكامل وإدارة النظم
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متطلب مصاحب	

backup/restore processes; integration of various operating platforms and open source technologies; and user and customer support services. Requires scripting and shell programming.

(Information Systems Development) تطوير نظم المعلومات IS321	متطلب سابق
This course assumes a general understanding of the nature of information systems, relevant technologies, and the life-cycle model of systems development. Its aim is to develop an overall understanding of the nature of the effort required to exploit the potential of ICT innovation in contemporary organizations. This course does not study any particular technology, nor does it study in-depth technical processes for systems development, such as design, programming, or evaluation. Rather, this course provides a critical understanding of the context within which IS professionals perform specific technical tasks. Database systems design and systems analysis and design are pre-requests for this course	----- متطلب مصاحب -----

(Digital Multimedia) الوسائط المتعددة الرقمية IT322	متطلب سابق
This course covers the basic elements of multimedia (text, sound, graphics, animation and video), multimedia applications, challenges and design issues, multimedia hardware, multimedia editing and authoring, cycle of multimedia production. primary objective of this workshop is to teach participants how to develop multimedia programs. Another objective is to demonstrate how still images, sound, and video can be digitized on the computer. Participants in this workshop will create their own multimedia courses using an authoring tool that allows you to develop an electronic stack of cards that contain buttons, graphics, and text. Issues concerning multimedia design and its use in education will be the focus of reading and class discussions throughout the course of the workshop.	----- متطلب مصاحب -----

(Database Administration) إدارة قواعد البيانات IT324	متطلب سابق
This course will cover real time database administration tasks using Oracle 11g. This course provides students with sound knowledge in the following: installation, configure and support databases, managing storage, setting up user accounts, assigning permissions, securing databases, backing up and restoring databases, tuning the performance of database and performing other administrative tasks. This course will cover theory (concepts) and practical (lab sessions). The pre-requisite for this course is Database Systems Design.	----- متطلب مصاحب -----

(Software Engineering) هندسة البرمجيات	CS325	متطلب سابق
<p>This course is very important to computer science, software engineering, IT and IS students in order to take a look at the Software Engineering concepts that are needed to develop software systems that can meet basic functional and non-functional requirements within a well- defined problem domain. It covers the traditional and most recent practices of different software engineering approaches including the requirements analysis, design, development, verification, and maintenance. A look at some related issues such as SWE projects management and critical systems. An examination of object-oriented software construction focused on the Unified Modeling Language. An introduction to CASE tools. Students will collaboratively define requirements and design of a substantial project. According to the course plan of these programs, this course required the course of system analysis and design as a pre-requisite.</p>	-----	
		متطلب مصاحب

(Systems and Networks Security) أمنية النظم والشبكات	IT412	متطلب سابق
<p>This course considers the technical and operational issues of information and computer network security. The course investigates the to network security including schemes for breaking security, and techniques threats for detecting and preventing security violations. Emphasis will be on conventional and public-key cryptosystems and their applications to achieve various security goals. Web security is reviewed with focus on the standardized schemes. Intrusion, malicious software, and denial of service attacks are reviewed. The main teaching strategies include lecture, Dialogue and discussion, Self Study and Problem solving.</p>	-----	
		متطلب مصاحب

أنظمة دعم القرارات	MIS005	متطلب سابق
<p>This course covered a comprehensive understanding of the decision support system (DSS), while stressing on the important role these systems play in business today. Topics to be covered include: decision making process, modeling analyzing and developing DSS, Artificial Intelligence concepts (including intelligent systems), case-based reasoning, expert systems, rule-based systems, machine learning methods, data mining, and neural networks and require project management and information system development.</p>	-----	
		متطلب مصاحب

(Enterprise Resources Planning) تخطيط موارد المؤسسات	IT313	متطلب سابق
<p>Enterprise Resources Planning (ERP) is an advanced IT course dealing with both the theoretical and practical aspects of the enterprise systems. This course is designed to provide students with an understanding of the practical use of ERP systems in modern business. It will introduce students to ERP systems integration</p>	-----	

and show how they can be used by organizations to run their operations more efficiently and effectively. The course comprises major of the ERP fundamentals such as the architecture, development life cycle, implementation strategies, software and vendor selection, operational and post-implementation. It also covers many of the new trends and challenges of ERP management. Particularly it explains in details the management of program and project, organizational change and business process re-engineering, global, ethics, and security, supply chain, and the customer relationship management. The course will incorporate a laboratory component using SAP software and some business cases as practices for students. It will also help you to refine your communication skills and group work skills, and assist you in the development of your research skills. ERP course is required to complete CS221-Database Systems Design and CIT10-Object Oriented Programming as pre-requisites.

متطلب مصاحب

(Principles of Artificial Intelligence) مبادئ الذكاء الاصطناعي CS321	متطلب سابق
<p>This course aims to provide an introduction to Artificial Intelligence (AI) and its applications. A breadth of topics will be covered, including agents, problem solving through search, game playing, knowledge and logic reasoning. As an application of AI, a brief overview of Expert Systems (ES) and Artificial Neural Network (ANN) will be provided in the end of this course. In order to practice on ES application, students will practice on AI tools or languages in separated Lab sessions such as Python. Data Structures and Algorithms course and Algorithms Analysis and Design course are pre-requisites for this course. To achieve these course goals different teaching strategies will be applied such as direct, indirect and interactive and self-learning</p>	-----
	متطلب مصاحب

(Project Management) إدارة مشاريع IS412	متطلب سابق
<p>This course will introduce information technology (IT) project management principles, tools and techniques. The topics covered in this course include project management processes, tracking, human management, risk management, quality management, contract management, and change management.</p>	-----
	متطلب مصاحب

(Advanced Applications Programming) برمجة تطبيقات متقدم IT431	متطلب سابق
<p>This intensive hands-on course explores advanced Java language features and packages. Java programmers will be able to take the content learned and immediately apply it to the problems encountered on the job. The course begins with a discussion of collections. Database programming using JDBC is covered in depth. Object serialization is covered. Distributed programming in Java is</p>	-----

introduced, including use of Remote Method Invocation. Reflection in Java and JAR files are covered. Server-side Web programming is introduced using servlets. Java security is covered in depth, including both the Java security model and details of the java.security package. Native methods are covered. According to the course plan, the prerequisite of this course is Human Computer Interaction and Visual Programming. To achieve the course goals, different teaching strategies will be applied such as direct, indirect and interactive and self-learning.	متطلب مصاحب

المقررات الاختيارية

(Network Administration) إدارة الشبكات	ITE01	متطلب سابق
This course presents enterprise network planning, design. An emphasis will be placed on current technologies for optimum network design. It equips student to gain an intermediate level understanding of the design, and analysis of enterprise Computer Networks. The proficiency gained will extend to the installation and use of common network hardware and software using network simulators. Analysis and design of enterprise networks will also be covered by the hands-on analysis and design of network operating systems and other networking tools. Topics include analysis and design network protocols, technologies and network security.		-----
		متطلب مصاحب

(Database Security) أمنية قواعد البيانات	ITE02	متطلب سابق
This course introduces basic concepts of data security in database environment, computer network and internet. The topic includes basic requirement of data security control, explain the risk and threats towards integrity, availability and data confidentiality in the organization. Among other issues discussed are technologies on application and data security such as data access control, data confidentiality, user management, virtual standalone database and database auditing. Students will be exposed to techniques of data security implementation in Oracle environment.		-----
		متطلب مصاحب

(Selected Topics in IT) مواضيع مختارة في تقنية المعلومات	ITE03	متطلب سابق
This course gives the student the opportunity to study unusual, cutting-edge and advanced topics in the technology field in an intensive, immersion-style setting. Emphasis is placed upon the knowledge to Exploring Mobile Application Development with the iPhone, Engineering Studies, Computerized Drafting, IT		-----

Professional Studies, Foundations in Technology, and Technology Internship. Each individual section of the course will be specially designed. The department of Technology announces the specific outline, outcomes, texts, materials and performance skills (if any) of each section early in the term preceding it.	متطلب مصاحب
This course introduces the fundamental principles, technology, and current development of Cloud Computing.	-----

(Ethics in ICT) أخلاقيات تكنولوجيا المعلومات والاتصالات	ITE04	متطلب سابق
This course is structured to assist students in their future role as Information and Communication Technology professionals. The course covers a range of knowledge areas as students are exposed to the social, ethical and professional issues, which relate to the responsibilities of IT employees. Professional Issues in IT gives students the awareness and skills to negotiate a variety of ethical situations in the workplace. They will generate and select from alternative solutions to ethical dilemmas. The course also raises awareness of the various codes of professional conduct that exist in the IT world. Some of the topics that will be discussed include ethical code, computer crime, software piracy, hacking and virus, privacy intrusion, IT and today's working environments, employees' health and security issues, copyright and intellectual property. The course explores the social and organizational impact of IT and provides students with the opportunity to develop a deeper and wider appreciation of the implications of their involvement in that process. Students are made aware of their responsibilities, the implications and impact of their work as a professional within the field of IT, and are encouraged to develop and act upon their own personal and professional values	-----	
		متطلب مصاحب

(E-business Application Dev) تطوير تطبيقات الأعمال الإلكترونية	ITE05	متطلب سابق
The teaching process in this course will concentrate on theoretical and practical aspect of developing and managing web site for electronic commerce. On theoretical part, the students will be exposed to the several areas of electronic commerce such as management, supply chain, payment, delivery, law and marketing. Meanwhile, in the practical part, the students will be exposed to the development aspect of electronic commerce. Implementation issues such as security, payment, supply, delivery and law will be emphasized. In addition, current issues in the area OF managing electronic commerce and enabling technologies for electronic commerce will also be discussed in this course.	-----	
		متطلب مصاحب

(Distributed Systems) الأنظمة الموزعة	ITE06	متطلب سابق
<p>This course is an introductory course in distributed systems. The emphasis will be on the techniques for creating functional, usable, and high-performance distributed systems. To make the issues more concrete, the class includes several multi-week projects requiring significant design and implementation. The major themes this course will teach include scarcity, scheduling, concurrency and concurrent programming, naming, client/server programming and middleware, consistency and replication, fault tolerant and distributed file systems. As the creation and management of software systems is a fundamental goal of any undergraduate systems course, students will design, implement, and debug large programming projects.</p>	-----	
		متطلب مصاحب

(Advanced Artificial Intelligence) الذكاء الاصطناعي المتقدم	ITE07	متطلب سابق
<p>This course will provide students introduction to Soft Computing (SC), Meta-heuristics Algorithms for solving optimization problems, Artificial Neural Networks, Fuzzy Sets Theory, Fuzzy Logic, Neuro-Fuzzy Technology, Hybrid Systems and Applications of Soft Computing (three to four real life applications). Principles of Artificial Intelligence course is pre-requisites for this course. To achieve these course goals different teaching strategies will be applied such as direct, indirect and interactive and self-learning.</p>	-----	
		متطلب مصاحب

(Knowledge Base Systems) الأنظمة المعتمدة على المعرفة	ITE08	متطلب سابق
<p>A knowledge-based system (KBS) is a system that uses Artificial Intelligence (AI) techniques in problem-solving processes to support human decision-making, learning, and action. Ideal for advanced-undergraduate and graduate students, as well as business professionals, this course enable students to develop an appreciation of KBS and their architecture and understand a broad variety of knowledge-based techniques for decision support and planning. The course assumes that students have basic computer science skills and a math background that includes set theory, relations, elementary probability, and introductory concepts of Artificial Intelligence. Besides to the central aspects of KBS like knowledge management and KBS fundamentals, architecture, developing, this course covers the Fuzzy Logic, Agent-Based Systems, Connectionist Models, Genetic Algorithms and Soft Computing Systems. It also contains more advanced about E-Learning Solution, Diet Menu Planner, and Question Answering System as real-world KBS applications for Multiagent System Accessing Distributed Database Grid, Knowledge-Intensive Learning, and Natural Language Interface respectively.</p>	-----	
		متطلب مصاحب

(Advanced Software Engineering)	هندسة البرمجيات المتقدمة	ITE09	متطلب سابق
<p>This Course is designed to cover the different special topics of interest . Topics of interest could be one or several from the followings: Software Reuse, Embedded software, component-based engineering, Distributed software engineering, Aspect-oriented engineering and Service-oriented architecture. and Other topics can be added as needed. The course will include case studies and hands on experiences. students participate during group discussions projects related to the special topics selected.</p>			-----
			متطلب مصاحب

(Software quality Assurance)	ضمان جودة البرمجيات	ITE10	متطلب سابق
<p>This Course is designed to cover the concepts, Components, metrics, and models in software quality assurance. It presents a framework for software quality assurance and discuss individual components in the framework such as planning, reviews, testing, configuration management, and so on. It also discusses metrics and models for software quality as a product, in process, and in maintenance. The course will include case studies and hands on experiences. Students will develop an understanding of software quality and approaches to assure software quality . The pre-requisite for this course is Software Engineering.</p>			-----
			متطلب مصاحب

(Advanced Operating Systems)	نظم التشغيل المتقدمة	ITE11	متطلب سابق
<p>This course introduces an advanced concepts in operating systems. The emphasis will be on the techniques for creating practical and high-performance distributed operating systems. Major topics that will be covered include: Hardware concepts of parallel and distributed systems, software concepts and design issues, threads and thread usage, multithreading operating system, client – server model, implementation of client-server model, remote procedure call, implementation of remote procedure call, synchronization in distributed systems, clock synchronization , transaction and concurrent control, mass storage structure, distributed file systems, protection and security, and Real-time systems. The prerequisite of this course is the Principles of Operating Systems.</p>			-----
			متطلب مصاحب

	خدمات وتطبيقات الشبكات	ITE12	متطلب سابق
<p>The course facilitates critical thinking about the Internet and the delivery of services using the Internet and the digital network, by focusing on the fundamentals of these systems. The course covers significant real-time services, including IPTV, multimedia, social networking, VoIP, and the Internet including</p>			-----
			متطلب مصاحب

website services. Technologies and services are discussed including how to apply the technologies to new ventures. Topics include: the bandwidth versus quality trade-off for Internet based communication modes (VoIP, digital TV, video conferencing, motion video) and the compression technologies associated with these systems; competing routing methodologies; performance analysis models; and the successful employment of Internet communication technologies for E-Commerce applications.

(Advanced Database Applications) تطبيقات قواعد بيانات متقدم ITE13	متطلب سابق
<p>This course covers modern database and information systems as well as research issues in the field. Topics and systems covered may include object-relational, object-oriented, active, semi-structured and streaming databases. Also discussed will be recent advances in database systems such as advanced query processing, distributed databases, data warehousing, on-line analytical processing, distributed information integration, XML query engines, web and semi-structured data management, continuously streaming and sensor-based data systems, multimedia database tools, data mining, and client-server, heterogeneous and P2P systems. The specific subset of topics for a given course offering is selected by the instructor. Research papers from recent journals and conferences are used.</p>	<p>-----</p> <p>متطلب مصاحب</p> <p>-----</p>

التنقيب عن البيانات واكتشاف المعرفة ITE14	متطلب سابق
<p>This course provides an overview of Knowledge Discovery and Data Mining (KDD). KDD deals with data integration techniques and with the discovery, interpretation and visualization of patterns in large collections of data. Topics include data warehousing and data preprocessing techniques; data mining techniques for classification, regression, clustering, deviation detection, and association analysis; and evaluation of patterns mined from data. The work discussed originates in the fields of artificial intelligence, machine learning, statistical data analysis, data visualization, databases, and information retrieval. Several scientific and industrial applications of KDD will be described. Students will be expected to read assigned textbook chapters and research papers, and work on implementation/research projects that cover the different stages of the KDD process.</p>	<p>-----</p> <p>متطلب مصاحب</p> <p>-----</p>