

Brief course description- Course Plan Development and Updating Procedures\ Computer Science Department	QF01/0409-3.0E
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Faculty	Science and Information Technology	Academic Department	Computer Science / Computer Science	Number of the course plan ( )
Number of Major requirement courses		Date of plan approval		

This form is just for the major requirement courses

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112323	3	Web applications Programming	Internet technology

Brief description

This module is a reflection of web pages development techniques using ASP.Net which supported by C# programming language. In this module, a training on how to create web pages from scratch to reach a creation of full, integrated and synchronized with each other web pages. This course is led to teach the user most of the web pages programming techniques and how to link them with each other's and with the databases. As well as the fundamentals of security, where the user will be taught how to secure the created web pages from hacking.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112353	3	Information System Analysis and Design	Database I

Brief description

This module presents fundamentals of systems development; Development life cycle; project management, Initiating and planning system; Methods for determining system requirements; Process modeling. Relational database models; databases: data integrity and security controls; forms and reports; Assessing usability; User interface and dialogue design; Implementation, Testing and installation documentation and training; Maintaining systems.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112456	3	Information system development	Information System Analysis and Design

Brief description

This module is a reflection of the pragmatic philosophy of software development as an engineering discipline. It implements an object-oriented approach using UML methods to create software system. This module introduces the concepts of IBM Rational Rose tools to elaborate systems through software engineering diagrams.

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Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112333	3	Operating systems	Computer organization and design
<p>Introduction to Operating System and Machine Architecture. Operating system and its instruction, the services provided by the OS, process management and its scheduling to the processor, type of scheduling and its algorithms, scheduling criteria's, Ways of calculating the average waiting time AWT, the modern methods of design and implementation of OS, threads , thread models and its implementation, deadlock, type of algorithms for prevents the deadlock, manipulation with files, access to the files, the proper storage media for files, memory management, RAM, and VIRUAL memory, paging, paging swapping.</p>			
Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112415	3	Artificial Intelligence	Data Structure
<p>Brief description This course introduces the basic principles in artificial intelligence. It covers simple representation schemes, problem solving paradigms, constraint propagation, and search strategies. Areas of application such as knowledge representation, natural language processing, expert systems, vision and robotics are explored. The PROLOG programming language is also introduced.</p>			
Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0122343		<b>Network Programming</b>	0122343
<p>Brief description The aim of this course is to introduce advanced network programming tools and techniques. The course gives hands-on experience in writing distributed applications in Java. In particular, the course will learn students to be able to know and define architectures of distributed applications; to design GUI clients for network servers; to program concurrent threads in a Java application; to design, develop and implement a distributed application using different networking APIs and technologies in Java, such as, the socket API, Java RMI, Java IDL (CORBA) and Java Database Connectivity (JDBC)</p>			
Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112221	3	<b>Programming language</b>	مبادئ البرمجة
<p>Brief description</p>			

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In this course, you will learn some of the concepts, fundamental syntax, and thought processes behind true object-oriented programming. Topics include the syntax of input, output, loop, conditions, and arrays statements in java. As well as, it provides in depth coverage some of the object oriented programming topics including class, object, encapsulation, inheritance, and polymorphism. Completion of this course will give you the tools and basic knowledge you need to learn more specific object-oriented programming techniques in Java language.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112212	3	<b>Data Structures</b>	Programming language

**Brief description**

Principles of data design. Data types and structures. Abstract data types (ADTs) and encapsulation. Unsorted List and Sorted List ADTs. Stack and Queue ADTs. Linked structures. Implementing Unsorted Lists, Sorted Lists, Stacks and Queues as linked structures. Programming with recursion. Binary Search Trees.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112322	3	البرمجة المرئية	Database 1

**Brief description**

This course focuses on providing the students the main skills for designing the GUI interface. In addition it focuses on teaching the students the programming skills by writing the necessary codes for designing the GUI interface. This course starts by defining the JFrames, and all controls which are placed on the frame such as JLabel, JTextField, JButtons, JoptionPane, JCheckBox, JRadioButton, JComboBox, JList, Events: Mouse events and Keyboard events, event Registration, Pixels, Color Class, Font Class, JTextArea, Java 2D and 3D Shapes, Exception Handling, Java

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112313	3	algorithms	Data structures

**Brief description**

Solving summations and recurrences. Efficiency and complexity analysis. Tree terminology and algorithms. Binary trees. Hashing methods and solving collision in hashing. Heaps and heap sort. Insertion sort, merge sort and quicksort. Graph terminology, representation and algorithms. Algorithms

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of Prim, Kruskal, Dijkstra and Floyd. Breadth-first and depth-first search. The greedy, divide-and-conquer, and dynamic programming techniques.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112351	3	<b>Database (1)</b>	<b>Programming language</b>

**Brief description**

This course provides a comprehensive concepts of the relational database design and SQL (implemented in Oracle) used with relational databases. The presentation stresses at relational data model; relational algebra; SQL; database analysis and design; ER and enhanced modeling; data normalization

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112352	3	<b>Database (2)</b>	<b>Database (1)</b>

**Brief description**

This course provides an advanced concepts related to database; transactions and their ACID properties; concurrency control; recovery system; database-system architecture; parallel databases; distributed databases; data analysis, data warehousing, OLAP, and data mining.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112325	3	برمجة نظم قواعد البيانات	<b>Database (1)</b>

**Brief description**

This course provides a comprehensive guide for developing database applications using the oracle 10g and the developer 10g application development utilities. The course emphasizes on SQL; creating PL/SQL programs using both SQL\*Plus and forms builder ; using developer 10g forms builder and reports builder to create an integrated database application; custom forms.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112434	3	Operations research	Linear algebra

**Brief description**

The Operations Research (OR) refers to the science of decision making. The course is intended to provide the key aspects of operations research methodology. This course covers the linear programming models; graphical LP solution; simplex method and sensitivity analysis; duality; transportation and assignment model; network model and CPM.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112424	3	Mobile Applications Programming	البرمجة المرئية

**Brief description**

This introductory course covers the basic principles of application development in Android environment. The course starts by introducing the Android system and its required software

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development tools. Basic interface design principles are presented followed by practical application development in Eclipse (i.e Tip Calculator App, Flag Quiz Game App, Cannon Game App, Doodlz App). Furthermore, the course covers database applications and 3D Graphical application supported by some basic examples.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0122141	3	Computer Networks	مقدمة في تكنولوجيا المعلومات

**Brief description**

An introduction to the design and analysis of computer communication networks. Topics include network architecture; application layer: HTTP, FTP, electronic mail, and DNS; transport layer: UDP, TCP, and congestion control; network layer: IP protocol; data link layer: errors detection techniques, and multi access link; as well as principles of physical layer.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite
0112342	3	Data Communications and Security	Computer Networks

**Brief description**

This module is the second level module of curricula related to the computer networks field. It provides in depth coverage of some basic topics such as routing algorithms, addressing, networks security, and multimedia networking.

Course number	Credit hours	Title of the course	Prerequisite-co-requisite

Approved by department council		Date of approval	
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