

Course Description for 2019/2020 Plan

Course Name	Course Number	Prerequisite	Credit Hours
Introduction to Database Systems	151002240	151001250or 110408213	3

Database management, database system architecture, introduction to relational databases, an introduction to SQL, domain, relations, relational algebra, views, functional dependencies, normalization.

Course Name	Course Number	Prerequisite	Credit Hours
Introduction to Database Systems lab	151002241	with 151002240	1

This course is a complement to the introduction to the database systems course. It aims to provide the students by a complete set of skills required to develop database systems using the ORACLE programming language which includes programming in the PL/SQL environment and writing programs using SQL. In addition, it includes exercises and practical applications which better suits the subjects covered in the introduction to the database systems course.

Course Name	Course Number	Prerequisite	Credit Hours
advanced Database systems	151002342	151002240	3

This course aims to provide students with advanced topics in database, the student will be able to understand the transactions and its properties, recoverable and serializable schedules, the two major concurrency control techniques which are 2PLP and Timestamp ordering, database recovery techniques, distributed DB and centralized DB, and data mining concepts.

Course Name	Course Number	Prerequisite	Credit Hours
Data Warehousing Technologies	151002350	151002240	3

In this course, students are presented with the basic concepts, fundamental issues, and techniques for the design of a data warehouse or data mart. Students examine all phases and tasks of the data warehouse design process, including business modeling, entity relationship diagramming, dimensional modeling, physical modeling, and warehouse meta data management. Participants use a case study to apply these concepts and methods. Group discussions and practices are included. Topics covered: Introduction: The Compelling Need for Data Warehousing, Data Warehouse: The Building Blocks, Data Cube Computation and Data Generalization, Trends in Data Warehousing, Planning and Project Management, Defining the Business Requirements, Requirements as the Driving Force for Data Warehousing, The Architectural Components, Infrastructure as the Foundation for Data Warehousing, The Significant Role of Metadata, Dimensional Modeling – Revised, Data Extraction, Transformation, and Loading, Data Quality and Data Warehousing and the Web, Data Mining Basics, the Physical Design Process, Data Warehouse Deployment and Maintenance.

Course Name	Course Number	Prerequisite	Credit Hours
data mining	151002351	151001351	3

Data mining is concerned with the extraction of novel knowledge from large amounts of data. This course introduces and studies the concepts, issues, tasks and techniques of data mining. Topics include data preparation and feature selection, association rules, classification, clustering, evaluation and validation, scalability, spatial and sequence mining, and data mining applications. The practical side of this course will introduce students to learn and use the open source Weka data mining tool.

Course Name	Course Number	Prerequisite	Credit Hours
Information retrieval Systems	151002372	151002240	3

Functional view of information retrieval, types of IRS, design issues of IRS (keyword-based retrieval, file structures, thesaurus construction, etc.), IR data structures and algorithms (lexical analysis, stemming, term weighting, associative indexing, Boolean operations, string searching and matching techniques, etc.), relevance feedback and query modification, applications and case studies

Course Name	Course Number	Prerequisite	Credit Hours
Information systems Managment	151002374	151002240	3

An introduction to the knowledge, skills and tools needed in the successful management of operational database systems. The concepts for data quality and data integration, data and database administration, and data warehousing are provided. The importance of these concepts in support to the decision making process within the organization. Further, topics in data availability, database change management, and disaster planning are discussed.

Course Name	Course Number	Prerequisite	Credit Hours
e-commerce	151002375	151002310	3

Overview of Information Systems and Electronic Commerce, E-Marketplaces, Retailing and Consumer behaviour, Multi stage channel of E-Commerce Model, B2B E-Commerce, B2B Exchange and E-Supply chain, E-Government, applications, and government strategy, E-Learning and software on building e-courses, Mobile Computing and Mobile Commerce perspectives, E-Commerce Software, Establishing Website, Web server, E-Commerce Software, E-Auctions, E-Commerce Security, Electronic Payment, E-Commerce strategy, The future of e-commerce in Jordan, Legal and Ethical issues in EC. ASP server side and XML.

Course Name	Course Number	Prerequisite	Credit Hours
Information Technology Systems	151002377	151002240	3

The course starts by enabling students to differentiate between data, information, and knowledge. The course then introduces students to concepts precisely related to data and information management. The students will learn about the technologies involved in such management. These include hardware technologies, software technologies, database management systems as well as networking technologies. This course introduces the essential of Information Systems. All phases from long-range or strategic information systems planning to development and operation (maintenance). Impact that has on decision making, managing computing and communication resources, security of information systems, enterprise applications, data warehousing, health information systems, data mining security, data reduction and privacy in information systems. Tools and applications will be used to master skills on a live project assignment. Information services will be studied as a separate topic. Finally, the students will learn how these technologies could be integrated into different classes of systems including transaction processing systems, decision support systems and intelligent systems

Course Name	Course Number	Prerequisite	Credit Hours
Programming of the internet applications	151 002310	151001110	3

Quick review of the Internet and Internet programming concepts, Web Servers and Web Application Servers, Client-Side Programming (HTML, JavaScript, CSS), Server-Side Programming (PHP), installing the Apache and MySQL servers, database Connectivity to Web applications, designing a client-server applications and implementing a client-server applications that connects to the MySQL Server using the standard DB queries (select, delete, update,... etc)..

Course Name	Course Number	Prerequisite	Credit Hours
Programming of internet applications lab	151 002311	151002310 with	3

Design web pages and the client side using HTML, JavaScript, CSS, and the sever-side using the PHP language. Installing the Apache and MySQL servers and connecting them to the internet and accessing through the internet the web pages and the client server applications that are on the Apache server.

Course Name	Course Number	Prerequisite	Credit Hours
Advanced Internet-applications programming	151002410	151002310	3

Application of server-side scripting programming, Implementation of Web servers, SQL & MySQL, Database Interfaces (DBIs), Advanced ActiveX Data Objects (ADO.NET), Active Server Pages.NET (ASP.NET), programming using Perl, Common Gateway Interface (CGI), PHP, Python, Java Servelets and JSP.

Course Name	Course Number	Prerequisite	Credit Hours
Network Management	151002420	151001320	3

This course focuses on network management attributes such as fault management, configuration management, performance management, security management, and accounting management. In addition, it focuses on network planning requirements and scalability. This course provides the state-of-the-art protocols and network management tools that are used to make network management of the current network and communication systems. It shows the protocol analysis, design and applicability in multi heterogeneous systems.

Course Name	Course Number	Prerequisite	Credit Hours
System Analysis and Design	151002370	151002240	3

Analysis of requirements for information systems. Elicitation/fact-finding, problem analysis, decomposition, and the requirements document. Concepts, methods, techniques, and tools for systems analysis, modeling and simulation, and prototyping. Structured and object oriented analysis. Role of the systems analyst in the organization. Gaining user commitment and fulfilling user needs. Concepts, tools, and techniques for systems design. Design principles, quality factors, decomposition of complex systems, and modularization techniques. Design methods such as object oriented and function oriented design. Comparison of analysis and design techniques.

Course Name	Course Number	Prerequisite	Credit Hours
Information Systems Security	151002471	151002240	3

The course covers security architecture, security attacks, security mechanisms, symmetric ciphers, Classical encryption techniques, data encryption standards (DES), primary numbers, introduction to number theory, public-key cryptosystems, RSA algorithm, message authentication, digital signature and Hash function

Course Name	Course Number	Prerequisite	Credit Hours
Database Languages and Tools	151002440	151002241 and 151002342	3

A selected DB Language such as Oracle; Additional support tools for business applications: DDL ,TCL and DML commands, Oracle developer (Forms, and Reports design), PL/SQL :functions, procedures, and triggers, database Connectivity using (ODBC or JDBC Technologies), using DBMS tools like database backup (export and import), and database recovery. Case study. Weekly practice in the lab.

Course Name	Course Number	Prerequisite	Credit Hours
Geographical Information Systems	151 002352	151 002240	3

An introduction to the Geographical Information System (GIS) concepts and techniques, obtain the knowledge of geographical data in digital form. The importance of GIS and Remote Sensing (RS) system in the applications and to perform the basic analysis operations. Demonstrate developing programming skills into GIS applications, spatial database and data processing algorithms.

Course Name	Course Number	Prerequisite	Credit Hours
Distributed Systems	151002481	151001320	3

This course addresses some of the basic principles behind distributed systems (collection of independent components that appear to the users as a single coherent system) and reviews some of the main paradigms used to organize them. This course aims to present the fundamental concepts and techniques about the design and construction of distributed systems. Topics to be covered are: models of distributed systems, networking and internetworking, concurrency control and synchronization, distributed programming, distributed operating systems and case studies of networking software.

Course Name	Course Number	Prerequisite	Credit Hours
Practical Training	151002490	80 Cr. Hrs.	3

Course Name	Course Number	Prerequisite	Credit Hours
Selected Topics in Computer Information Systems	151002491	80 Cr. Hrs.	3

This course allows the department to cover one of the recent topics in the field of computer information systems that is not offered within the courses offered by the department.

Course Name	Course Number	Prerequisite	Credit Hours
Scientific research 1	151002492	80 Cr. Hrs.	1

This course along with the scientific research 2 course aim to prepare students to be ready to develop information system and document it in a standard method. Students divided into groups and each group is supervised by a lecturer. This group designs and develops an information system in one of the computer information systems fields. In this course, Project in computer information systems 1, students make a literature survey, study the problem to be solved, make a feasibility study, user requirements, and design the solution to the problem.

Course Name	Course Number	Prerequisite	Credit Hours
Scientific research 2	151002493	151002492	2

This course is a continuation to the scientific research 2 course. The students implement the design of the system, make testing using real data, conclude the project and recommend a future expansion to this project. Finally, the students document the project and submit it to the exam committee.