

**Al-Hussein Bin Talal University**

**College of  
Information Technology**

**Department of  
Computer Information Systems**

**Study plan**



## Objectives:

1. To provide students with an understanding of the fundamental knowledge prerequisite for the practice of or for advanced study in computer information systems, including its scientific principles, rigorous analysis, and creative design.
2. To provide students with the broad education, including knowledge of important current issues in computing with emphasis on computer information systems, necessary for productive careers in the public or private sectors or for the pursuit of graduate education.
3. To develop skills for clear communication and responsible teamwork and to inculcate professional attitudes and ethics, so that students are prepared for the complex modern work environment and for lifelong learning.
4. To provide an environment that enables students to pursue their goals in an innovative program that is rigorous and challenging, open and supportive.



## 1. Framework for B.Sc. Degree ( 132 Semester Credits)

Classification	Credit Hours		
	Compulsory	Elective	Total
University Requirements	21	6	27
College Requirements	25	-	25
Department Requirements:	68	9	77
Free Electives	-	3	3
<b>Total =</b>	<b>105</b>	<b>27</b>	<b>132</b>

## 2. University Requirements: ( 27 Credit Hours)

### 2. 1. Compulsory : (21Credit Hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite or *Corequisite
0100101	Military Sciences	3	3	-	-
0201101	Arabic Language	3	3	-	0201099
0202101	English Language	3	3	-	0202099
0205100	National Education	3	3	-	-
<b>Total</b>		<b>12</b>			



## 2. 2. Elective: (6 Credit Hours)

Elective Courses with Total of (6) Credit Hours. Student must select six credit hours from each of the following:

Course No.	Course Title	Cr. Hr.	Lecture	Prerequisite or *Corequisite
<b>Package of Humanity Courses</b>				
0214099	French Language	3	3	-
0206101	Introduction to Libraries' Science	3	3	-
0209101	Spanish Language	3	3	-
0207101	German Language	3	3	-
0202102	Communication Skills in English	3	3	0202101
0201102	Communication Skills in Arabic	3	3	0201101
<b>Package of Economic &amp; Social Science Courses</b>				
0701100	Jordan's Contribution in the Human Civilization	3	3	-
0412100	Economy In our Lives	3	3	-
0411101	Principles of Management	3	3	-
0704105	Cultural Heritage and People	3	3	-
0100111	Islamic Culture	3	3	-
0113112	Principles of Psychology	3	3	-
0205131	Law in our Life	3	3	-
0102141	Principles of Education	3	3	-
0100172	History of Jerusalem	3	3	-
0100173	History of the Arabic-Islamic Culture	3	3	-
0111222	Skill	3	3	-
<b>Package of Science &amp; Technology , Agriculture , &amp; Health Courses</b>				
0502100	Environmental Issues	3	3	-
0303100	Introduction to Astronomy	3	3	-
0100171	Principles of Physical Education	3	3	-



### 3. College Requirements: (25 Credit Hours)

Course No.	Course Title	Cr. hr.	Lecture	Lab.	Prerequisite or *Corequisite
0302101	Calculus I	3	3	-	-
0302102	Calculus II	3	3	-	0302101
0303106	General Physics for Computer Students	3	3	-	-
0303107	General Physics Lab for Computer Students	1	-	1	0303106
0612102	Discrete Mathematics	3	3	-	-
0612114	C++ Programming	3	2	3	0612099
0612213	Object-Oriented Programming I	3	2	3	0612114
0612331	Computer Operating Systems	3	3	-	0612114
0613101	Fundamentals of Information Technology	3	3	-	-
<b>Total</b>		<b>25</b>			

### 4. Department Requirements (77Credit Hours)

#### Course Numbering

The indications of the course subject's digits:

Field Number	Specialization
0	Fundamentals
1	Systems Analysis and Design
2	Systems Implementation and Simulation
3	Information Systems and Its Application
4	Internet and Its Application
5	Knowledge Based Systems
9	Graduation Project, Field Training, Special Topics

#### Example

Data base systems					0613313		
0	6	1	3	3	1	3	
College		Department			Level	Field	Sequence

#### 4. 1. Department Core: (68 Credit Hours)



Course No.	Course Title	Cr. hr.	Lecture	Lab.	Prerequisite or *Co requisite
0302131	Principles of Probability and Statistics	3	3	-	0612102
0451100	Principles of Management and Marketing	3	3	-	-
0413101	Principles of Accounting (1)	3	3	-	-
0433101	Principles of Financial Management	3	3	-	0451100
0612224	Algorithms and Data Structures	3	2	3	0612213
0612332	Introduction to Computer Networks	3	3	-	0612331
0612342	Artificial Intelligence	3	3	-	0612224
0613201	Introduction to Information Systems	3	3	-	& 0613101 0451100
0613212	Systems Analysis	3	3	-	0613201
0613313	Database Systems	3	3	-	0613212
0613314	Systems Design and Implementation	3	3	-	0613311
0613322	A Fourth Generation Language	3	2	3	0613313
0613341	Internet Programming	3	2	3	0612213
0613390	Field Training	3	-	3	Completing 60 Cr. hr.
0613435	Information Systems Security	3	3	-	0612332
0613434	Multimedia Systems	3	2	3	0612213
0613442	Electronic Commerce	3	2	3	0613341
0613453	Information Retrieval	3	3	-	0613313
0613455	Decision Support and Expert Systems	3	3	-	0612342
0613490	Graduation Project- Computer Information Systems	3	-	3	Completing 90 Cr. hr.
0614201	Technical Writing Skills	1	1	-	0202101
0614202	Professional and Ethical Practices	1	1	-	0613101
0614204	Introduction to Software Engineering	3	3	-	0613101
0614351	Software Project Management and Quality	3	3	-	0614204
	<b>Total</b>	<b>68</b>			



#### 4. 2. Department Electives: ( 9 Credit Hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite or *Co requisite
0612313	Visual Programming Language I	3	2	3	0612213
0612315	Object-Oriented Programming II	3	2	3	0612213
0613324	Computer Modeling and Simulation	3	2	3	0612224
0613355	Genetic Algorithm	3	2	3	0612224
0613432	Geographic Information Systems	3	2	3	0613313
0613451	Data Warehousing and Mining	3	3	-	0613313
0613491	Special Topics In Computer Information Systems	3	3	-	Department Approval
0614361	Information Systems Aided Tools	3	2	3	0614321

#### 5. Free Elective ( 3 Credit Hours)

Courses to be taken from University wide open Courses.



## Study Plan Guide for the Bachelor Degree in Computer Information Systems

First Year				
First Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
-	University Requirements Compulsory	3	-	-
0302101	Calculus I	3	-	-
0303106	General Physics for computer science	3	-	-
0613101	Principles of Information Technology	3	-	-
<b>Total</b>		<b>12</b>		
Second Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0451100	Principles of Management and Marketing	3	-	-
-	University Requirements Electives	3	-	-
0302102	Calculus II	3	0302101	-
0303107	General Physics Lab for computer science	1	0303106	-
0612102	Discrete Mathematics	3	-	-
0612114	C++ Programming	3	0612099	-
<b>Total</b>		<b>16</b>		

Second Year				
First Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0413101	Principles of Accounting (1)	3	-	-
0302131	Principles of Probability and Statistics	3	0612102	-
0612213	Object-Oriented Programming I	3	0612114	-
0613201	Introduction to Information Systems	3	& 0613101 0451100	-
0614201	Technical Writing Skills	1	0202101	-
-	University Requirement Elective	3	-	-
<b>Total</b>		<b>16</b>		
Second Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0433101	Principles of Financial Management	3	0451100	-
0612224	Algorithms and Data Structures	3	0612213	-
0613210	Systems Analysis	3	0613201	-
0614202	Professional and Ethical Practices	1	0613101	-
0614204	Introduction to Software Engineering	3	0613101	-
-	University Requirement Compulsory	3	-	-
<b>Total</b>		<b>16</b>		





Third Year				
First Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0612331	Computer Operating Systems	3	0612114	-
0613311	Database Systems	3	0613210	-
0613341	Internet Programming	3	0612213	-
0614351	Software Project Management and Quality	3	0614204	-
-	University Requirement (Compulsory)	3	-	-
-	University Requirement (Elective)	3	-	-
<b>Total</b>		<b>18</b>		
Second Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0612332	Introduction to Computer Networks	3	0612331	-
0612342	Artificial Intelligence	3	0612224	-
0613314	Systems Design and Implementation	3	0613311	-
0613320	Fourth Generation Language	3	0613311	-
0613390	Field Training *	3	End 60 Cr. hr.	-
-	Department Electives	3	-	-
<b>Total</b>		<b>18</b>		

Summer Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0613390	Field Training *	3	End 60 Cr. hr.	-

Fourth Year				
First Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
0613435	Information Systems Security	3	0612331	-
0613453	Information Retrieval	3	0613311	-
0613455	Decision support and expert systems	3	0612342	-
-	Department Elective	3	-	-
-	University Requirement Elective	3	-	-
-	University Requirement Compulsory	3	-	-
<b>Total</b>		<b>18</b>		
Second Term				
Course No.	Course Title	Cr. hr.	Prerequisite	Co-requisite
-	Free Elective	3	-	-
0613442	Electronic Commerce	3	0613341	-
0613430	Multimedia Systems	3	0613213	-
0613490	Graduation Project-Computer Information Systems	3	End 90 Cr. hr.	-
-	Department Elective	3	-	-
-	University Requirement Elective			
<b>Total</b>		<b>18</b>		

\* this Course must be Registered in a Separate Semester.



## Description of Courses offered by Department of Computer Information Systems

Course Number	Course Name and Description
0613101	<p style="text-align: right;"><b>أساسيات في تكنولوجيا المعلومات</b></p> <p><b>Fundamentals of Information Technology</b></p> <p>This course presents introduction to computer and programming terminology; data, information, I/O, processing, and use of notations. The basic structure of computer programming. The fundamentals and concepts of algorithms. The components of algorithms; Processing, Comparing, Testing, Validation. The fundamentals of drawing flowcharts; INPUT/OUTPUT, PROCESS, LOOPS, CONDITIONS, JUMPS, ARROWS. The functions and techniques of programming. The concepts of structured programming including Pseudo-code.</p> <p><b>Prerequisite: -(none)</b></p>
0613201	<p style="text-align: right;"><b>مقدمة في نظم المعلومات</b></p> <p><b>Introduction to Information Systems</b></p> <p>This course covers fundamental roles of information systems in the overall strategy and management of organizations. Explain different systems such as: decision support systems, executive information systems, business intelligent systems, and information systems planning and development.</p> <p><b>Prerequisite:( 0613101&amp; 04 51100)</b></p>
0613210	<p style="text-align: right;"><b>تحليل النظم</b></p> <p><b>Systems Analysis</b></p> <p>This course presents the techniques and tools for systems analysis and design. The focus will be on the phases of software development life cycle. It also emphasizes problem definition, requirements analysis, specifications, and design phases. Throughout the development phases, different analyses/design techniques, modeling tools, structured methodologies and management skills are introduced.</p> <p><b>Prerequisite:( 0613201)</b></p>
0613311	<p style="text-align: right;"><b>نظم قواعد البيانات</b></p> <p><b>Database Systems</b></p> <p>This course presents topics include database system architectures, data models, query languages, conceptual and logical database design. The entity-relationship model and relational model are investigated in detail; object-oriented databases are introduced. Mappings from the conceptual level to the logical level, integrity constraints, dependencies, and normalization are studied as a basis for formal design. Theoretical languages such as the relational algebra and the relational calculus are described and high-level languages such as SQL.</p> <p><b>Prerequisite: ( 0613210)</b></p>



Course Number	Course Name and Description
0613314	<p data-bbox="367 201 834 233"><b>Systems Design and Implementation</b></p> <p data-bbox="1224 201 1430 233">تصميم وتشغيل النظم</p> <p data-bbox="367 254 1458 600">This course designed to provide a strong foundation in systems design and implementation concepts, methodologies, techniques, and tools. Including the process of designing forms, reports, interfaces. Methods for generating design specifications for Web-based applications and distributed systems. Describe the sub processes that make up the system implementation process. Installation strategies: direct, parallel, single location and phased installation and know when to use each one. Prepare a training plan for an information system. Describe maintenance management issues, including alternative organizational structures, quality measurement, handling change requests, and configuration management. Describe the Rapid Application Development approach to systems development.</p> <p data-bbox="367 636 656 667"><b>Prerequisite: ( 0613311)</b></p>
0613324	<p data-bbox="367 701 805 732"><b>Systems Simulation and Modeling</b></p> <p data-bbox="1192 701 1398 732">نمذجة ومحاكاة النظم</p> <p data-bbox="367 753 1458 921">The course emphasizes the following areas: systems modeling, continuous and discrete system simulation, queuing systems, random number generation, time advancing mechanisms, event and process oriented simulations, input and output data statistical analysis and verification, introduction to the simulation packages and special simulation tools like Petri Nets. Practical work for three hours weekly is also included.</p> <p data-bbox="367 957 656 989"><b>Prerequisite: ( 0612224)</b></p>
0613320	<p data-bbox="367 1020 773 1052"><b>A Fourth Generation Language</b></p> <p data-bbox="1159 1020 1395 1052">إحدى لغات الجيل الرابع</p> <p data-bbox="367 1073 1458 1241">This course designed to provide the fundamentals of designing and coding custom database applications on the microcomputer platform. Projects will be completed from beginning to end, including designing the database, coding and testing of the application, creating proper industry standard documentation, error handling techniques, security, and disaster recovery. Practical work for three hours weekly is also included.</p> <p data-bbox="367 1276 656 1308"><b>Prerequisite: ( 0613311)</b></p>
0613341	<p data-bbox="367 1339 664 1371"><b>Internet Programming</b></p> <p data-bbox="1208 1339 1362 1371">برمجة الانترنت</p> <p data-bbox="367 1392 1458 1602">This course provides an introduction to the World Wide Web and internet programming. Basic XHTML and CSS will be introduced, as well as client-side scripting in JavaScript using variables, functions, and objects. DHTML (Dynamic HTML) programming with XHTML, CSS, JavaScript, and the DOM (Document Object Model). Server-side scripting with ASP, JSP, Perl and PHP will be demonstrated. Practical work for three hours weekly is also included.</p> <p data-bbox="367 1629 656 1661"><b>Prerequisite: (0612213)</b></p>

Course Number	Course Name and Description
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0613355	<p><b>Genetic Algorithms</b> الخوارزميات الجينية</p> <p>The course covers introduction to genetic algorithms and genetic programming; mathematical basis for genetic algorithms; implementation on parallel computers and field-programmable gate arrays; evolution of machine language programs; applications to problems of system identification, control, classification, analysis of genome and protein sequences.</p> <p><b>Prerequisite: (0612224)</b></p>
0613390	<p><b>Field Training</b> التدريب الميداني</p> <p>The Training Consists of (8)Week after Completing about (60) C.H According to Field Training in Striations .</p> <p><b>Prerequisite: (Completing 60 C.H.)</b></p>
0613432	<p><b>Geographic Information Systems</b> نظم المعلومات الجغرافية</p> <p>This course deals with the analysis and management of geographic information. This course offers an introduction to methods of managing and processing geographic information. Emphasis will be placed on the nature of geographic information, data models and structures for geographic information, geographic data input, data manipulation and data storage, spatial analytic and modeling techniques, and error analysis.</p> <p><b>Prerequisite: (0613311)</b></p>
0613435	<p><b>Information Systems Security</b> أمن نظم المعلومات</p> <p>This course provides students with contemporary issues of information security, including effective information security policies, risk assessment factors, internal application security, intranet vs. extranet security, firewalls and internet security, response to breaches of security, and operating a secure corporate network.</p> <p><b>Prerequisite: ( 0612332)</b></p>
0613430	<p><b>Multimedia Systems</b> نظم الوسائط المتعددة</p> <p>This course provides development and delivery platforms, multimedia standards, Enabling technologies, CD-ROM's, photo CD, Video-Laser disc processor, storage, audio and video, Midi files, formats, image compression techniques, video on demands, video conferencing, authoring. Software packages, Internet, WWW, HTML, virtual reality, Telecommuting, HDTV, Future topics. Practical work for three hours weekly is also included.</p> <p><b>Prerequisite: ( 0612213)</b></p>



Course Number	Course Name and Description
0613442	<p data-bbox="375 216 1442 247"><b>Electronic Commerce</b> <span style="float: right;">التجارة الالكترونية</span></p> <p data-bbox="367 264 1458 468">This course gives hands-on experience and a theoretical appreciation of various E-Commerce technologies and exploration of the key technical issues associated with implementing E-Commerce. It concentrates on how to build commercial Web site using advanced programming technologies. Students will design and build a commercial Web site that accesses a database for online processing. Practical work for three hours weekly is also included.</p> <p data-bbox="375 501 659 533"><b>Prerequisite: ( 0613341)</b></p>
0613453	<p data-bbox="375 579 1442 611"><b>Information Retrieval</b> <span style="float: right;">استرجاع المعلومات</span></p> <p data-bbox="367 630 1458 766">This course gives principles of organizing and providing access to information using automated information storage and retrieval systems. Retrieval system models, index language selection, data structures, user interfaces, and evaluation for text and multimedia applications. Practical work for three hours weekly is also included.</p> <p data-bbox="375 800 670 831"><b>Prerequisites: ( 0613311)</b></p>
0613451	<p data-bbox="375 877 1442 909"><b>Data Warehouse and Mining</b> <span style="float: right;">مستودعات البيانات والتنقيب عنها</span></p> <p data-bbox="367 928 1458 1098">This course provides the principles and key components of the various structures of data warehouses. Advanced data analysis and design for optimized data warehouses. Data warehouses and direct analytical tools. The application of data mining algorithms to retrieve specialized information and relevant knowledge or retrieve data stored in data warehouses.</p> <p data-bbox="375 1134 670 1165"><b>Prerequisites: ( 0613311)</b></p>
0613455	<p data-bbox="375 1218 1442 1249"><b>Decision Support and Expert Systems</b> <span style="float: right;">النظم الخبيرة ودعم القرار</span></p> <p data-bbox="367 1268 1458 1543">This course provides covers areas in which computers can be used as tools in management decision-making and evaluation of alternatives. Functional components of a Decision Support System (DSS). Decision models and end-user modeling. User-DSS interfaces. Planning and developing a DSS. Concepts of knowledge-based systems and expert systems. Components of expert systems. Knowledge acquisition. Expert systems development with a commercial shell. Manipulation of quantified uncertainty factors. Derivation of knowledge from data. Significance of groupware and document management systems to decision-making</p> <p data-bbox="375 1577 670 1608"><b>Prerequisite: ( 0612342 )</b></p>

Course Number	Course Name and Description
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0613490	<p><b>Graduation Project-Computer Information Systems</b> مشروع تخرج - نظم المعلومات الحاسوبية</p> <p>This course provides application development in the areas of trade, administrative or other. The student used programming languages learned during his study software or databases or Internet software and electronic commerce. At the end of the student chapter or project team made a presentation of the project during a debate before a committee of members of the section in addition to the project supervisor.</p> <p><b>Prerequisite: (Completing 90 Credit Hours)</b></p>
0613491	<p><b>Special Topics in Computer Information System</b> موضوعات خاصة في نظم المعلومات</p> <p>Topics in this course are determined by the teacher article at the beginning of each semester.</p> <p><b>Prerequisites: (Department Approval)</b></p>

