
INFORMATION SYSTEMS PROGRAM- NEW PLAN



COURSES DESCRIPTION

**COLLEGE OF COMPUTER AND INFORMATION
SCIENCES**

DEPARTMENT OF INFORMATION SYSTEMS

1444-2022

Course Name	Systems Analysis and Design(I)	Course Code	English	Arabic	
			IS 251	نظم 251	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	1
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	5th level / 2nd year	Prerequisite	IS 211		
Course Description:					
<p>This course is concerned with the fundamental knowledge, methods and skills needed to analyze, design computer-based information systems. It addresses the role of the systems analyst, the techniques and technologies used, and the ethical considerations in requirements specification. The structured software development life cycle approach, modeling techniques and development phases are comprehensively discussed and reviewed. In modeling techniques; data models and process models are thoroughly described. A project is given to all students that should cover analysis and design phases of a relatively data-oriented business case; with emphases on data modeling (ER diagrams) and process modeling (DFDs). Object modeling is explored and contrasted. A user centered design approach is adopted.</p>					
Text Book:					
1- K. E. Kendall, J. E. Kendall, Systems Analysis and Design, 9th Edition. ISBN: ISBN-13: 978-0133023442, Pearson, 2013. 2- Modern systems analysis and design, Jeffrey A. Hoffer, PEARSON, 8 th edition, 2017.					

Course Name	Foundations of Information Systems	Course Code	English	Arabic	
			IS 211	نظم 211	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			3	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	4th / 2nd	Prerequisite	None		
Course Description: This course provides students with an overall understanding of the main concepts of information systems and highlights the importance of information systems in modern organizations and societies. Topics include information, data, and system concepts, information requirements in modern organizations and business (including decision making, operations, and other types of requirements), introducing different types of information systems, exploring the systems development life cycles (analysis, design, and implementation), methodologies of developing information systems, managing resources of information systems (data, hardware, software, etc.), knowledge management, quality and evaluation of information systems, ethical, social, and security issues of information systems.					
Text Book: R. Kelly Rainer, B. Prince, Introduction to Information Systems, 7th Edition, ISBN: ISBN-13: 978-1119403500, Wiley, 2017					

Course Name	Database Management Systems	Course Code	English	Arabic	
			IS 323	نظم 323	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	9th level / 3rd year	Prerequisite	CIS 322		
Course Description: This course provides students with the theoretical background and practical experience relating to the database Management systems. The following items will be covered DBMS architecture, transaction management, query processing and optimization, indexing structure for file, disk storage and basic file structures and hashing, RAID technologies, database recovery and backup management, concurrency control concepts, distributed database concepts, Database security concepts and object oriented database. New trends in database.					
Text Book:					
1. ELMASRI & NAVATHE, "Fundamentals of Data Base Systems", 7th Edition, 2016. 2. Database System Concepts 6th Edition, by Abraham Silberschatz Professor Henry F. Korth, S. Sudarshan, McGraw-Hill, 2011.					

Course Name	Field Training	Course Code	English	Arabic	
			IS 391	نظم 391	
Credit Hours	1	Contact Hours	Lec	Lab	Tut
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	9th	Prerequisite	Pass 90 Credit Hours		
Course Description: This training is intended to give the student an opportunity to spend some time working at the different establishments in government/private sectors side-by-side with experienced practitioners in different fields using IT resources. The aim of the training is to give the student experience with an environment devoted to computer technology and its applications.					
Text Book:					
NO SPECIFIC REFERENCE					

Course Name	E-business	Course Code	English	Arabic	
			IS 406	نظم 406	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	11th	Prerequisite	CIS 428		
Course Description:					
This course covers the following topics: Introduction to E-commerce, E-commerce strategy, Cyber-Services models and applications, Web Advertising, Internet data and payment security, B2C models and examples, B2B and supply chain management, and E-payment.					
Text Book:					
1. Digital-Business and E-Commerce Management: Strategy, Implementation and Practice, Dave Chaffey ,5th edition ,Prentice Hall, 2015. 2- Electronic Commerce: A Managerial and Social Networks Perspective, Efraim Turban,David King,Jae Kyu Lee,Ting-Peng Liang,Deborrah C. Turban, 8th edition , Springer, 2015.					

Course Name	Information Security	Course Code	English	Arabic	
			IS 461	نظم 461	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	10th	Prerequisite	CNE 463		
Course Description:					
<p>Information Security needs to ensure the confidentiality, integrity, and availability of information. This course introduces students the principles of network and operating system security through hands-on exploration. Students learn how to harden an operating system as well as secure the network by implementing technologies such as firewalls, Virtual Private Networks (VPN), and Intrusion Detection Systems (IDS).</p>					
Text Book:					
<ol style="list-style-type: none"> 1. W. Stallings, Cryptography and Network Security: Principles and Practice, Prentice Hall, Six Edition. 2013. 2. Information Security: Principles and Practice, Mark Stamp, Wiley, 2nd Edition, 2011 (additional textbook). 					

Course Name	Data Warehousing and Mining	Course Code	English	Arabic	
			IS 424	نظم 424	
Credit Hours	4	Contact Hours	Lec	Lab	Tut
			3	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	10th	Prerequisite	IS 323, MTH 281		
Course Description: <p>This course introduces technologies and managerial issues related to data mining and business intelligence. Data mining is a rapidly growing field that is concerned with developing techniques to assist managers to make intelligent use of data repositories.</p> <p>Topics covered introduction to business intelligence, design and development of business intelligence applications, extracting, transforming, and loading strategies for data warehousing, dimensional modelling design, OLAP and data cube expansion and support of a data mining algorithm to support BI and decision making such as frequent pattern analysis, classification and prediction and finally clustering.</p>					
Text Book:					
<ul style="list-style-type: none"> ○ J. Han, M. Kamber and J. Pei, Data Mining: Concepts and Techniques. ISBN-13: 978-9380931913, Elsevier, 2012 ○ R. Kimball, M. Ross, The Data Warehouse Toolkit: The Complete Guide to Dimensional Modeling. 3rd Edition, ASIN: B07JJQ6Z45, Wiley, 2013 					

Course Name	Graduation Project (1)	Course Code	English	Arabic	
			IS 492	نظم 492	
Credit Hours	2	Contact Hours	Lec	Lab	Tut
			3	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	11th level / 4th year	Prerequisite	IS 352, CIS 323		
Course Description: This course is the first part of a sequence of two courses that constitute the BSc graduation capstone project. In this part, the student is expected to propose, analyze, and design a software system or conduct a thorough investigation of a particular IS-related problem for research-based projects. The student will deliver oral presentations and written reports.					
Text Book: NO SPECIFIC REFERENCE					

Course Name	Graduation Project 2	Course Code	English	Arabic	
			IS 493	نظم 493	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University	<input type="checkbox"/> College	<input checked="" type="checkbox"/> Department		
Type	<input checked="" type="checkbox"/> Required	<input type="checkbox"/> Elective			
Level	12th level / 4th year	Prerequisite	IS 492		
Course Description: This course is the second part of a sequence of two courses that constitute the BSc graduation capstone project. In this project, the student will continue the System/Research development of the project that started in graduation project 1. The student will implement the design and produce an executable system. He will also deliver oral presentations, progress reports, and a final report.					
Text Book: NO SPECIFIC REFERENCE					

Course Name	Enterprise Architecture	Course Code	English	Arabic	
			IS 471	نظم 471	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	1
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	10 th	Prerequisite	IS 352		
Course Description: This course explores the design, selection, implementation and management of enterprise IT solutions. The focus is on applications and infrastructure and their fit with the business. Students learn frameworks and strategies for infrastructure management .These topics are addressed both within and beyond the organization, with attention paid to managing risk and security within audit and compliance standards. Topics covered include: enterprise and enterprise architecture concepts, enterprise architecture constructs and methodologies, the enterprise architect, architectural frameworks (e.g. TOGAF, ZACHMAN, FEAF, DODAF).					
Text Book: 1. M. Lankhorst, Enterprise Architecture at Work. 4 th Edition, ISBN-13: 978-3662539323, Springer, 2017 2. S. Bernard, An Introduction To Enterprise Architecture. 3rd Edition, ISBN-13: 978-1477258002, AuthorHouse, 2012					

Course Name	System Analysis and Design(II)	Course Code	English	Arabic	
			IS 352	نظم 352	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective				
Level	7 th	Prerequisite	IS 251		
Course Description: The objective of this course is to familiarize students with detail of system analysis and design with Object-Oriented Approach. This course includes a thorough discussion of UML. It also covers various approaches and methodologies used in different phases of software development lifecycle, as use-case modeling, system structure modeling, system behavior modeling, user-interface design, classes design, system construction and installation and operation. This course also discusses some advanced topics as enhancing the qualities of design of an information system, which may include: coupling, and cohesion . Students should work as teams on a project to build a real system.					
Text Book: A. Dennis, B. Wixom, Systems Analysis and Design: An Object Oriented Approach with UML. ISBN-13: 978-1118804674, Wiley, 2015					

Elective Courses

Course Name	Decision Support Systems	Course Code	English	Arabic	
			IS 442	نظم 442	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11th or 12th Level	Prerequisite	Pass 90 Credit Hours		
Course Description: <p>This course studies how Decision Support Systems (DSS) work and the theory behind different DSS techniques, thereby enabling them to understand today's turbulent business environment and how organizations survive and even excel in such environments (particularly solving problems and exploiting opportunities). This course provides the required skills and knowledge of the various decision-making models so that decisions can be based on logical and mathematical foundations under different circumstances, such as in cases of uncertainty, lack of information, or certainty. This course studies also the design of computerized systems to support individual or organizational decisions. Moreover, the course presents the need for computerized support of managerial decision making and what was an early framework for managerial decision making.</p>					
Text Book: <p>1. R. Sharda, D. Delen, E. Turban, Business Intelligence and Analytics: Systems for Decision Support. 10th Edition, ISBN-13: 978-0133050905, Pearson, 2014</p>					

Course Name	Information System Strategy and Management	Course Code	English	Arabic	
			IS 432	نظم 432	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th / 4 year	Prerequisite	Pass 90 Credit Hours		
Course Description: <p>This course explores the issues and approaches in managing the information systems (IS) function in organizations, and how the IS function integrates / supports / enables various types of organizational capabilities. It takes a senior management perspective in exploring the acquisition, development and implementation of plans and policies to achieve efficient and effective information systems. The course addresses issues relating to defining the high-level IS infrastructure and the systems that support the operational, administrative and strategic needs of the organization. The remainder of the course is focused on developing an intellectual framework that will allow leaders of organizations to critically assess existing IS infrastructures and emerging technologies as well as how these enabling technologies might affect organizational strategy. The ideas developed and cultivated in this course are intended to provide an enduring perspective that can help leaders make sense of an increasingly globalized and technology intensive business environment.</p>					
Text Book: <p>David, Fred R. Strategic management: Concepts and cases. Peaeson/Prentice Hall, 2011.</p>					

Course Name	Information Retrieval & Visualization	Course Code	English	Arabic	
			IS 426	نظم 426	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th	Prerequisite	Pass 90 Credit Hours		
Course Description: This course will introduce the student to the fundamentals of Information storage and retrieval systems. It focuses on the theory and core concepts of information retrieval systems; introduce the basic principles of information representation, storage formats and different processing, and retrieval techniques and query representation. The course also discusses social media and visualization retrieval techniques.					
Text Book: 1. Ricardo Baeza-Yates, Berthier Ribeiro-Neto, Modern Information Retrieval: The Concepts and Technology behind Search, 2/E, Addison-Wesley Professional, 2011, ISBN: 9780321416919					

Course Name	Enterprise Resource Planning	Course Code	English	Arabic	
			IS 472	نظم 472	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th	Prerequisite	Pass 90 Credit Hours		
Course Description:					
This course covers aspects related to the Enterprise Resources Planning (ERP). It provides in details the following topics: definition of Enterprise Resource Planning (ERP), organization, business processes, and integration. Differences between Software Development Life Cycle (SDLC) and implementation of ERP, the environment of ERP, the architecture of ERP, the critical success factors of ERP implementation, planning of ERP implementation, the preparation of ERP implementation, technologies related to ERP and ERP Security.					
Text Book:					
1. Ellen Monk, Concepts in Enterprise Resource Planning, CENGAGE Learning Custom Publishing, 2011.					

Course Name	Geographic Information Systems	Course Code	English	Arabic	
			IS 482	نظم 482	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				

Level	11 th or 12 th	Prerequisite	Pass 90 Credit Hours
Course Description:			
This course covers aspects related to the Geographic Information Systems. It provides in details the following topics: Spatial Analysis, Maps as a Model of Geographic Data, Cartographic and GIS Data Structures, GIS Data Input, Elementary Spatial Analysis, Spatial Arrangement, GIS Design and GIS Output.			
Text Book:			
Paul A. Longley, Mike Goodchild, David J. Maguire, David W. Rhind, Geographic Information Systems and Science, John Wiley & Sons, 2015.			

Course Name	Database Administration	Course Code	English		Arabic	
			IS 425		نظم 425	
Credit Hours	3	Contact Hours	Lec	Lab	Tut	
			2	3	0	
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department					
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective					
Level	11 th or 12 th level / 4rd Year		Prerequisite	IS 323		
Course Description: The aim of this course is to introduce students to the basic database management administration concepts and practice on the selected DBMS environment (ORACLE or MS SQL SERVER). This course covers the following topics: Selection of DBMS, Architecture of the chosen DBMS, Installation issues, DB creation, Indexing, Integrity Constraints triggers, DB Backups, Security management, Recovery issues, Performance management and tuning. Other features of the DBMS, Data distribution, fragmentation, and replication issues, Management issues of the DBA activity. This course also covers some aspects of Practical part that not covered in the first database system course such as triggers, functions and stored procedures.						
Text Book: The book depends on the type of the used DBMS(ORACLE or SQL SERVER)						
<div>1. Carlos Coronel, Steven Morris and Peter Rob, (2013) Database Systems: Design, Implementation, and Management, 9th Edition, Cengage Learning</div> <div>2. Ramez Elmasri, and Shamkant Navathe, (2016) Fundamentals of Database Systems, 7th edition, Addison-Wesley.</div> <div>3. Jeffrey A. Hoffer et al, (2013) Modern Database Management, 11th edition, Prentice Hall, Pearson Education Inc</div> <div>4. Joel Murach and Bryan Syverson, (2012) Murach's SQL Server 2012 for Developers, Mike Murach & Associates Inc</div>						

Course Name	Modern Web Design and Development	Course Code	English	Arabic	
			IS 407	407 نظم	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th level / 4th Year	Prerequisite	CIS 428		
Course Description: The course introduces modern concepts and skills to design and develop web applications. Topics covered include responsive and interactive pages (e.g. Bootstrap, jQuery and Angular JS), server-side stacks and packages (e.g. LAMP, WISA, Ruby on Rails, Node.js), and a focus on a selected back end framework. Other topics include modern web development technologies (e.g. state and profile management, Version Control Systems such as GitHub) and modern techniques (e.g. MVC). The course also cover the database access technologies that can be used for data access and manipulation. The course also includes the use RSS and integration of Web Services and APIs in webapps and use of data interchange formats such as XML or JSON.					
Text Book:					
<ol style="list-style-type: none"> 1. Programming the World Wide Web, Robert W. Sebesta, Pearson/ 8th Edition , 2015. 2. Internet & World Wide Web: How to Program", 5th Edition, 2012, Pearson Education 3. Microsoft Visual Studio 2015Mike Snell, Lars Powers,Sams Unleashed, Third Edition 					

Course Name	Software Quality and Testing	Course Code	English	Arabic	
			IS 433	نظم 433	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th	Prerequisite	Pass 90 Credit Hours		
Course Description: This course aims to assure the significance of the concept of quality during the process of developing software. It emphasizes on the basic concepts of software quality assurance during all the stages of software development process: planning, analysis, design, programming, installation, testing and maintenance stages. It introduces the quality standard systems used in the field of software industry and Information Systems such as: CMM and IEEE standards in order to assure complying with standard criteria during the process of software production, while ensuring continuous development.					
Text Book: <ul style="list-style-type: none"> Software Quality Assurance, Testing and Metrics, 2015, Anirban Basu, Prentice-Hall 					

Course Name	Mathematical Modeling for IS	Course Code	English	Arabic	
			IS 441	441 نظم	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	1
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th level or 12 th level	Prerequisite	MTH 281		
Course Description: This course is designed to cover the concepts of mathematical models as applied to business. It covers the approaches that can be adopted for problem solving to executive decision making. The list of topics in this course include linear programming models, their graphical analysis, and applications, Network Models, Project Scheduling Models, Inventory Models, Queuing Models, and simulation models.					
Text Book: 1. W. Fox, Mathematical Modeling for Business Analytics. 1 st Edition, ISBN-13: 978-1138556614, Chapman and Hall/CRC, 2017 2. J. Lawrence, B. Pasternack A., Applied Management Science: Modeling, Spreadsheet Analysis, and Communication for Decision Making, 2 nd Edition, ISBN-13: 978-0471391906, Wiley, 2002					

Course Name	Knowledge Management	Course Code	English	Arabic	
			IS 428	428 نظم	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	1
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th / 4 year	Prerequisite	Pass 90 Credit Hours		
Course Description: This course studies the basic concepts of Knowledge Management. It covers the characteristics of Knowledge Management and the practical models used in Knowledge Management. It discusses the methods of collecting, classifying, deploying knowledge to serve the overall goals of the organization.					

Text Book:

1.I. Becerra-Fernandez, R. Sabherwal, Knowledge management: Systems and Processes. 2nd Edition, ISBN-13: 978-0765639158, Routledge Taylor and Francis Group, 2015

Course Name	Distributed Information Systems	Course Code	English		Arabic	
			IS 484		نظم 484	
Credit Hours	3	Contact Hours	Lec	Lab	Tut	
			2	3	0	
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department					
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective					
Level	11 th or 12 th level		Prerequisite	CNE 463		

Course Description:

This course explains a set of information systems physically distributed over multiple sites, which are connected with some kind of communication network. A system where, applications (cooperative among one another) stay on different elaborative nodes and the information property, unique, is hosted on different elaborative nodes.

Text Book:

1. Andrew S. Tanenbaum. Computer Networks. Prentice-Hall, 5th edition, 2010.
2. Andrew S. Tanenbaum and Maarten Van Steen. Distributed Systems: Principles and Paradigms. Prentice Hall, 2nd edition, October 2006.

Course Name	Fundamentals of Multimedia	Course Code	English	Arabic	
			IS 481	نظم 481	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th / 4 year	Prerequisite	Pass 90 Credit Hours		
Course Description: This course covers aspects related the Multimedia Information System. It covers the following topics: The principles and current technologies of multimedia systems, multimedia standards, Gaining hands-on experience in multimedia systems, Representing, processing, and retrieving multimedia data. Comprehensive understanding with multimedia standards, tools and systems. Extensive practices from multimedia capturing, processing, transmitting, content representing to retrieval.					
Text Book: 1. Fundamentals of Multimedia by Li Ze-Nian , By (author) Mark S. Drew , By (author) Jiangchuan Liu, Springer International Publishing AG , 2014. 2. Digital Multimedia 2009 Nigel Chapman and Jenny Chapman ,John Wiley & Sons, Ltd..					

Course Name	Intelligent Systems	Course Code	English	Arabic	
			IS 483	نظم 483	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	1
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th	Prerequisite	Pass 90 Credit Hours		
Course Description: <p>This course aims to equip students with the required skills to be able to access information and be able to use it efficiently through using intelligent systems that lead to success and economic superiority. The goals of this course are two-fold. First, as its name indicates, one of the purposes is for the student to explore the idea of intelligent systems in some depth. In this course, we will define intelligence as "the capacity to acquire and apply knowledge" thus intelligent systems are those which modify their actions based on prior interactions. The student will study the techniques and concepts common to this sub-discipline of AI by constructing a non-trivial intelligent system. The second goal of the course is to provide a capstone experience to the student undergraduate information systems curriculum. To this end, the course provides an opportunity for the student, as a part of a software development team in a studio format in conjunction with his instructor, to construct a large software system. The project will require the student to implement working software, produce a number of supporting documents, and present his results to the department community.</p>					
Text Book: <p>1. A. Meystel, J. Albus, Intelligent Systems: Architecture, Design, and Control. 1st Edition, ISBN-13: 978-8126556243, Wiley India, 2015</p>					

Course Name	Cloud Computing Solutions and Applications	Course Code	English	Arabic	
			IS 485	نظم 485	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th / 4 year	Prerequisite	Pass 90 Credit Hours		
Course Description: <p>This course provides a hands-on comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Business Process as a Service (BPaaS). IaaS topics start with a detailed study the evolution of infrastructure migration approaches from VMWare/Xen/KVM virtualization, to adaptive virtualization, and Cloud Computing / on-demand resources provisioning. Mainstream Cloud infrastructure services and related vendor solutions are also covered in detail. PaaS topics cover a broad range of Cloud vendor platforms including AWS, Google App Engine, Microsoft Azure, Eucalyptus, OpenStack and others as well as a detailed study of related platform services such as storage services that leverage Google Storage, Amazon S3, Amazon Dynamo, or other services meant to provide Cloud resources management and monitoring capabilities.</p>					
Text Book: <ol style="list-style-type: none"> 1. Cloud Computing--Web Based Applications That Change the Way You Work and Collaborate, Que Publishing, 2008. 					

Course Name	Fundamentals of Big Data	Course Code	English	Arabic	
			IS 427	427 نظم	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			2	3	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	7 th or 8 th	Prerequisite	Pass 90 Credit Hours		
Course Description: The course covers Big Data Fundamentals, including the characteristics of Big Data, the sources Big Data (such as social media, sensor data, and geospatial data), as well as the challenges imposed around information management, data analytics, privacy and security, as well as platforms and architectures. Emphasis will be given to non-relational databases by examining techniques for storing and processing large volumes of structured and unstructured data as well as streaming data.					
Text Book: 1. Big Data: Related Technologies, Challenges and Future Prospects, Chen, M., Mao, S., Zhang, Y., Leung, V.C, Springer, 2014.					

Course Name	Health Information Management	Course Code	English	Arabic	
			IS 486	نظم 486	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th	Prerequisite	Pass 90 Credit Hours		
Course Description: This course introduces modern information systems for medical data in a clinical environment. It seeks to apply information and computing technologies to improve some aspects of healthcare, including patient care, research and education. Topics covered include: the nature of biomedical information and terminologies, clinical configuration, user interface design, the electronic medical records, the role of information and computing technologies to support clinical decision making, system analysis and technology assessment, and crucial issues of informatics in medical ethics, medical device integration, and community health information exchange.					
Text Book: 1. Health Informatics: Practical Guide For Healthcare And Information Technology Professionals (Fifth Edition) (Hoyt, Medical informatics) 5th Edition, ISBN-13: 978-1105437557, lulu.com, 2012					

Course Name	IT Auditing and Control	Course Code	English	Arabic	
			IS 462	نظم 462	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th	Prerequisite	Pass 90 Credit Hours		
Course Description:					
<p>This course introduces the fundamental concepts of the information technology audit and control function. The main focus of this course is on understanding information controls, the types of controls and their impact on the organization, and how to manage and audit them. The concepts and techniques used in information technology audits will be presented. Students will learn the process of creating a control structure with goals and objectives, audit an information technology infrastructure against it, and establish a systematic remediation procedure for any inadequacies. The challenge of dealing with best practices, standards, and regulatory requirements governing information and controls is addressed.</p>					
Text Book:					
<ol style="list-style-type: none"> 1. Moeller, Robert R. "IT audit, control, and security". Vol. 13. John Wiley & Sons, 2010. 2. Senft, Sandra, and Frederick Gallegos." Information technology control and audit". CRC Press, 2008 					

Course Name	E-Government Concepts	Course Code	English	Arabic	
			IS 408	408 نظم	
Credit Hours	3	Contact Hours	Lec	Lab	Tut
			4	0	0
Category	<input type="checkbox"/> University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department				
Type	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective				
Level	11 th or 12 th	Prerequisite	CIS 428		
Course Description:					
<p>This course introduces the ways in which internet technologies are affecting how people interact with government, and how governments, in turn, are using and managing these technologies to better provide information and services to the public. It also emphasizes the benefits of adopting IT in e-government for all stockholders. It introduces the technology of e-government with an in-depth examination of current government development models and management challenges in the delivery of services and information, electronically. Furthermore, it will explore the skills and concepts needed to effectively manage e-government projects. Lastly, some successful practices of e-government projects will be addressed to emphasize the importance of implementing e-government.</p>					
Text Book:					
1. S. Bhatnagar, Unlocking e-government potential: Concepts, Cases and Practical Insights. 1 st Edition, ISBN-13: 978-8178299280, SAGE Publications, 2009					