B.Sc. in Computer Information Systems
Study Plan

- **University Compulsory Courses** — **16 C.H**
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- **University Elective Courses** — **9 C.H**
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- **Faculty Compulsory Courses** — **27 C.H**

Line No.	Code	Course	
901010	MATH101	CALCULUS(I)	3
901020	MATH102	CALCULUS (2)	3
1712310	CPE231	DIGITAL LOGIC DESIGN	3
1731011	CS101	INTRODUCTION TO PROGRAMMING	3
1731020	CS102	PROGRAMMNIG LAB	1
1731121	CS112	INTRODUCTION TO OBJECT-ORIENTED BROGRAMMING	3
1732111	CS211	DATA STRUCTURES AND ALGORITHMS	3
1742000	CIs200	PROFESSIONA AND ETHICAL ISSUES IN COMPUTING	1
1742010	CIs201	INTRODUCTION TO WEB DESIGN	1
1742011	CIs201	INTRODUCTION TO WEB DESIGN (LAB)	0
1742280	CIs228	FUNDAMENTALS OF DATABASE SYSTEMS	3
1762300	SE230	FUNDAMENTALS OF SOFTWARE ENGINEERING	3

- **Department Compulsory Courses** — **69 C.H**

Line No.	Code	Course	
902331	MATH233A	PROBILITY &STATISTICS (FOR COMPUTER SCIENCS STUDENTS)	3
902411	MATH241A	DISCRETE MATHEMATICS	3
1733180	CS318	HUMAN-COPUTER INTERACTION	3
1741500	CIs150	INTRODUCTION TO MANAGEMENT	3
1742520	CIs252	ACCOUNTING	3
1743300	CIs330	DECISION SUPPORT SYSTEMS & INTELLGENT SYSTEMS	3
1743320	CIs332	HEALTH INFORMATION SYSTEMS	3
1743400	CIs340	WEB APPLICATION DEVELOPMENT	3
1743401	CIs340	WEB APPLICATION DEVELOPMENT (LAB)	0
1743450	CIs345	OPERATING SYSTEMS FOR BUSINESS APPLICATIONS	3
1743510	CIs351	MANAGEMENT INFORMATIONS SYSTEMS	3
1743830	CIs383	OPERATIONS RESEARCH	3
1743850	CIs385	MODELING & SIMULATION OF BUSINESS CASES	3
1743900	CIs390	PRACTICAL TRANING	3
1744210	CIs421	DATABASE APPLICATIONS	3
1744211	CIs421	DATABASE APPLICATIONS (LAB)	0
1744290	CIs429	DATA MINING	3
1744421	CIs442	BUSINESS DATA COMMUNICATION	3
1744510	CIs451	E-BUSINESS	3
1744541	CIs454	BUSINESS PLANNING & CONTROL	3
1744910	CIs491	GRADUATION PROJECT 1	1
1744920	CIs492	GRADUATION PROJECT 2	2
1752010	NES201	COMMUNICATION SKILLS	3
1762200	SE220	SOFTWARE MODELING	3
1763200	SE320	SYSTEM ANALYSIS AND DESIGN	3
1764400	SE440	PROJECT MANAGEMENT	3

- **Department Elective Courses** — **12 C.H**

Line No.	Code	Course	
1712520	CPE252	COMPUTER ORGANIZATION AND DESIGN	3
1742300	CIs230	INFORMATION SYSTEMS	3
1742550	CIs255	MARKETING	3
1743020	CIs302	FUNDAMENTALS OF MULTIMEDIA	3
1743291	CIs329	DATA WAREHOUSING	3
1743330	CIs333	IT IN HEALTHCARE APPLICATIONS	3
1743340	CIs334	INFORMATION SYSTEMS APPLICATIONS	3
1743371	CIs337	INFORMATION SUCURITY	3
1744280	CIs428	DATABASE ADMINISTRATION	3
1744301	CIs430	SUCURITY & PRIVACY OF HEALTHCARE INFORMATION	3
1744500	CIs450	MANAGEMENT IN HEALTHCARE	3
1744550	CIs455	ACCOUNTING INFORMATION SYSTEMS	3
1744560	CIs456	FINANCIAL INFORMATION SYSTEMS	3
1744931	CIs493	SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS(1)	1
1744941	CIs494	SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS(2)	2
1744951	CIs495	SPECIAL TOPICS IN COPMUTER INFORMATION SYSTEMS(3)	3
1763100	SE310	VISUAL PROGRAMMING	3
1763230	SE323	SOFTWARE DOCUMENTATION	3

TOTAL — **133 C.H**

**** For prerequisite & equivalent courses see the Courses' Description.***

B.Sc. in Computer Information Systems

Management Information Systems

Study Plan

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- **Faculty Compulsory Courses** — **36 C.H**

Line No.	Code	Course	
901010	MATH101	CALCULUS(I)	3
901020	MATH102	CALCULUS (2)	3
902411	MATH241A	DISCRETE MATHEMATICS	3
1712510	CPE251	DIGITAL LOGIC DESIGN	3
1712520	CPE252	COMPUTER ORGANIZATION AND DESIGN	3
1731010	CS101	INTRODUCTION TO INFORMATION TECHNOLOGY	3
1731120	CS112	INTRODUCTION TO PROGRAMMING	3
1732110	CS211	DATA STRUCURE AND SYSTEMS	3
1732840	CS284	COMPUTER ALGORITHMS	3
1742000	CIs200	PROFESSIONA AND ETHICAL ISSUES IN COMPUTING	1
1742010	CIs201	INTRODUCTION TO WEB DESIGN	1
1742011	CIs201	INTRODUCTION TO WEB DESIGN (LAB)	0
1742030	CIs203	PROFESSIONAL COMMUNICATION	1
1743100	CIs310	SOFTWARE ENGINEERING	3
1743280	CIs328	DATABASE SYSTEMS	3

- **Department Compulsory Courses** — **51 C.H**

Line No.	Code	Course	
902331	MATH233A	PROBILITY &STATISTICS (FOR COMPUTER SCIENCS STUDENTS)	3
1733120	CS312	OBJECT ORIENTED PROGRAMMING	3
1734100	CS410	VISUAL PROGRAMMING LANGUAGES	3
1741500	CIs150	INTRODUCTION TO MANAGEMENT	3
1741810	CIs181	ECONOMICS	3
1742300	CIs230	INFORMATION SYSTEMS	3
1742620	CIs262	ACCOUNTING	3
1743390	CIs339	SYSTEMS ANALYSIS AND DESIGN	3
1743400	CIs340	WEB APPLICATION DEVELOPMENT	3
1743401	CIs340	WEB APPLICATION DEVELOPMENT (LAB)	0
1743450	CIs345	OPERATING SYSTEMS FOR BUSINESS APPLICATIONS	3
1743830	CIs383	OPERATIONS RESEARCH	3
1743900	CIs390	PRACTICAL TRANING	3
1744210	CIs421	DATABASE APPLICATIONS	3
1744211	CIs421	DATABASE APPLICATIONS (LAB)	0
1744300	CIs430	KHNOWLEDGE BASED SYSTEM	3
1744390	CIs439	PROJECT MANAGEMENT	3
1744420	CIs442	BUSINESS DATA COMMUNICATION AND COMPUTER NETWORKS	3
1744910	CIs491	GRADUATION PROJECT 1	1
1744920	CIs492	GRADUATION PROJECT 2	2

- **Department Elective Courses** — **9 C.H**

Line No.	Code	Course	
814190	ENG419	ENGLISH FOR BUSINESS AND SECRETARIAL WORK	3
1732150	CS215	SELECTED PROGRAMMING LANGUAGE	3
1733110	CS311	UNIX PROGRAMMING	3
1734510	CS451	COMPUTER ARCHITECTURE	3
1742850	CIs285	MARKETING	3
1743290	CIs329	DATA WAREHOUSING	3
1743370	CIs337	INFORMATION SYSTEMS SECURITY	3
1743610	CIs361	FINANCIAL MANAGMENT	3
1743650	CIs365	BANKING AND FINANCE	3
1743710	CIs371	HEALTH INFORMATION SYSTEMS	3
1743810	CIs381	SOFTWARE DOCUMENTATION	3
1743820	CIs382	FUNDEMENTALS OF MULTIMEDIA	3
1743870	CIs387	GEOGRAPHIC INFORMATION SYSTEMS	3
1744280	CIs428	DATABASE ADMINISTRATION	3
1744290	CIs429	DATA MINING	3
1744350	CIs435	LIBRARY INFORMATION SYSTEMS	3
1744610	CIs461	FINANCIAL INFORMATION SYSTEMS	3
1744630	CIs463	FINANCIAL REPORTING	3
1744640	CIs464	ACCOUNTING INFORMATION SYSTEMS	3
1744710	CIs471	MEDICAL TERMINOLOGY	1
1744720	CIs472	HOSPITAL MANAGMENT	2
1744730	CIs473	COMPUTER - BASED PATIENT RECORD	3
1744740	CIs474	HEALTH CARE BILLING	3
1744930	CIs493	SPECIAL TOPICS 1	3
1744940	CIs494	SPECIAL TOPICS 2	2
1744950	CIs495	SPECIAL TOPICS 3	1

- **Specialization Compulsory Courses** — **9 C.H**

Line No.	Code	Course	
1743510	CIs351	MANAGEMENT INFORMATIONS SYSTEMS	3
1744510	CIs451	E-BUSINESS	3
1744540	CIs454	HUMAN RESOURCES INFORMATION SYSTEMS	3

TOTAL — **130 C.H**

**** For prerequisite & equivalent courses see the Courses' Description.***

B.Sc. in Computer Information Systems

Financial Information Systems

Study Plan

University Compulsory Courses **16 C.H**
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Faculty Compulsory Courses **36 C.H**

Line No.	Code	Course	
901010	MATH101	CALCULUS(I)	3
901020	MATH102	CALCULUS (2)	3
902411	MATH241A	DISCRETE MATHEMATICS	3
1712510	CPE251	DIGITAL LOGIC DESIGN	3
1712520	CPE252	COMPUTER ORGANIZATION AND DESIGN	3
1731010	CS101	INTRODUCTION TO INFORMATION TECHNOLOGY	3
1731120	CS112	INTRODUCTION TO PROGRAMMING	3
1732110	CS211	DATA STRUCURE AND SYSTEMS	3
1732840	CS284	COMPUTER ALGORITHMS	3
1742000	CIs200	PROFESSIONA AND ETHICAL ISSUES IN COMPUTING	1
1742010	CIs201	INTRODUCTION TO WEB DESIGN	1
1742011	CIs201	INTRODUCTION TO WEB DESIGN (LAB)	0
1742030	CIs203	PROFESSIONAL COMMUNICATION	1
1743100	CIs310	SOFTWARE ENGINEERING	3
1743280	CIs328	DATABASE SYSTEMS	3

Department Compulsory Courses **51 C.H**

Line No.	Code	Course	
902331	MATH233A	PROBILITY &STATISTICS (FOR COMPUTER SCIENCS STUDENTS)	3
1733120	CS312	OBJECT ORIENTED PROGRAMMING	3
1734100	CS410	VISUAL PROGRAMMING LANGUAGES	3
1741500	CIs150	INTRODUCTION TO MANAGEMENT	3
1741810	CIs181	ECONOMICS	3
1742300	CIs230	INFORMATION SYSTEMS	3
1742620	CIs262	ACCOUNTING	3
1743390	CIs339	SYSTEMS ANALYSIS AND DESIGN	3
1743400	CIs340	WEB APPLICATION DEVELOPMENT	3
1743401	CIs340	WEB APPLICATION DEVELOPMENT (LAB)	0
1743450	CIs345	OPERATING SYSTEMS FOR BUSINESS APPLICATIONS	3
1743830	CIs383	OPERATIONS RESEARCH	3
1743900	CIs390	PRACTICAL TRANING	3
1744210	CIs421	DATABASE APPLICATIONS	3
1744211	CIs421	DATABASE APPLICATIONS (LAB)	0
1744300	CIs430	KHNOWLEDGE BASED SYSTEM	3
1744390	CIs439	PROJECT MANAGEMENT	3
1744420	CIs442	BUSINESS DATA COMMUNICATION AND COMPUTER NETWORKS	3
1744910	CIs491	GRADUATION PROJECT 1	1
1744920	CIs492	GRADUATION PROJECT 2	2

Department Elective Courses **9 C.H**

Line No.	Code	Course	
814190	ENG419	ENGLISH FOR BUSINESS AND SECRETARIAL WORK	3
1732150	CS215	SELECTED PROGRAMMING LANGUAGE	3
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1742850	CIs285	MARKETING	3
1743290	CIs329	DATA WAREHOUSING	3
1743370	CIs337	INFORMATION SYSTEMS SECURITY	3
1743510	CIs351	MANAGEMENT INFORMATIONS SYSTEMS	3
1743650	CIs365	BANKING AND FINANCE	3
1743710	CIs371	HEALTH INFORMATION SYSTEMS	3
1743810	CIs381	SOFTWARE DOCUMENTATION	3
1743820	CIs382	FUNDEMENTALS OF MULTIMEDIA	3
1743870	CIs387	GEOGRAPHIC INFORMATION SYSTEMS	3
1744280	CIs428	DATABASE ADMINISTRATION	3
1744290	CIs429	DATA MINING	3
1744350	CIs435	LIBRARY INFORMATION SYSTEMS	3
1744510	CIs451	E-BUSINESS	3
1744540	CIs454	HUMAN RESOURCES INFORMATION SYSTEMS	3
1744630	CIs463	FINANCIAL REPORTING	3
1744710	CIs471	MEDICAL TERMINOLOGY	1
1744720	CIs472	HOSPITAL MANAGMENT	2
1744730	CIs473	COMPUTER - BASED PATIENT RECORD	3
1744740	CIs474	HEALTH CARE BILLING	3
1744930	CIs493	SPECIAL TOPICS 1	3
1744940	CIs494	SPECIAL TOPICS 2	2
1744950	CIs495	SPECIAL TOPICS 3	1

Specialization Compulsory Courses **9 C.H**

Line No.	Code	Course	
1743610	CIs361	FINANCIAL MANAGMENT	3
1744610	CIs461	FINANCIAL INFORMATION SYSTEMS	3
1744640	CIs464	ACCOUNTING INFORMATION SYSTEMS	3

TOTAL **130 C.H**

**** For prerequisite & equivalent courses see the Courses' Description.***

B.Sc. in Computer Information Systems

Courses' Description

CIS 100 Computer Skills (3C=2H+3L)
This course provides the very basic computer skills to students who have failed in demonstrating such skills in their college admittance test. The course covers topics such as computer components, computer functions and benefits, computer viruses and measure of protection. Also, introduction to operating systems, application software (including word processing, spreadsheets and presentation applications), Internet, e-mail systems, e-learning systems, e-library systems. *Prerequisite: None*

CIS 150 Introduction to Management (3C=3H+0L)
This course provides an introductory coverage of management theory and practice. The topics include application of management theories to practical problems in planning, organizing, and controlling business activity. It focuses on the basic roles, skills and functions of management for effective and efficient decision making. The current issues of business ethics, environmental concerns, international management, women in management and political environment are also reviewed. *Prerequisite: None*

CIS 200 Professional and Ethical Issues in Computing (1C=1H+0L)
This course introduces students to the social context of the IT industry and its practices. These include professional and ethical responsibilities in the analysis and design of systems. Also, in ensuring the safety of work environments, risks and liabilities of computer-based systems, intellectual property, computer crime, and economic issues in computing. *Prerequisite: None*

CIS 201 Introduction to Web Design (1C=0H+3L)
This course introduces students to the Internet as an infrastructure to many services. The course then focuses on the WWW as a major Internet-based service. Working in a Lab, students will learn to create and maintain web pages and construct them in web sites. For this end, the students will learn HTML, XHTML and DHTML. Additionally, a brief introduction to XML is provided. *Prerequisite: CS 112*

CIS 228 Fundamentals of Database Systems (3C=3H+0L)
This course teaches the fundamentals of databases. These include basic concepts and terminology (database, database administrator, database management systems, end-users, etc.), characteristics of the database approach, the three level-schema architecture and data independence, the Entity Relationship Model (notations and concepts), Relational Model (concepts, constraints and operations), Relational Algebra, ER to relational mappings, SQL, examples of DBMSs, functional dependencies and normal forms, storage structures. *Prerequisite: CS 211*

CIS 230 Information Systems (3C=3H+0L)
The course starts by enabling students to differentiate between data, information, and knowledge. The course then introduces students to concepts precisely related to data management 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. 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. *Prerequisite: CIS 200*

CIS 252 Accounting (3C=3H+0L)
This course introduces students to the fundamental concepts of accounting. Students will learn procedures of collecting financial data and how to process such collections according to the generally accepted accounting principles. Students will also learn the accounting of a service firm, and accounting for purchase and sales of merchandise, the recording in the general journal (and the various specialized journals), and how to post data to the ledgers. Finally, the course covers the preparation of the trial balance and financial statements, including the study of the closing entry and adjusting entry. *Prerequisite:CIS 150*

CIS 255 Marketing (3C=3H+0L)
This course covers the organization-consumer relationship through the marketing mix. Students will learn about the behavior of supplying organizations and behavior of the ultimate consumer. Students will learn to distinguish between consumer needs and consumer wants and how organizations satisfy these through the various marketing mix elements (product, price, place, promotion). While the course is mostly theoretical, practical applications of the theories are introduced through home works and projects. *Prerequisite:CIS 150*

CIS 302 Fundamentals of Multimedia (3C=3H+0L)
This course introduces students to the basic elements of multimedia. These include text, sound, images, video and animation. For each element the students will learn about the required hardware and software and the effective utilization of the element in information communication. Laboratory sessions will enable the students to practice the theories and the software they learn in class. *Prerequisite: CS 211*

CIS 329 Data Warehousing (3C=3H+0L)
This course covers basic topics related to data warehousing. These include building the data warehouse team, developing the business model, tools for data warehouse creation, maintenance and delivery. The course focuses on fundamentals of object analysis for business model creation and using the business model as a foundation for multi-dimensional analysis. The students will learn about the importance of metadata as well as schema designs and its variants. Also, data sources for the warehouse (such as legacy systems, operational systems, and others), multi-level architecture for integrating heterogeneous data and understanding and managing summary data. Finally, students will learn strategies for data validation and production issues for warehouse delivery. *Prerequisite: CIS 228*

CIS 330 Decision Support Systems and Intelligent Systems (3C)
The purpose of this course is to treat the essentials of discrete-event simulation methodology, and does so in the context of a popular Arena simulation environment. The course contains topics on the simulation modeling methodology and the underpinnings of discrete-event systems, as well as the relevant underlying probability, statistics, stochastic processes, input analysis, model validation and output analysis, and more detailed design for organizational operations and their analysis. All simulation-related concepts are illustrated in numerous Arena examples, encompassing production lines, manufacturing and inventory systems, and Health Information Systems Applications. An introduction into application of Artificial Intelligence techniques in business

will be given and the coverage will extend to include major characteristics of KBSs, the knowledge acquisition and representation, inference techniques, Expert Systems development tools and Case-Based reasoning.
Prerequisite: MATH 233 + CIS 351

CIS 332 Health Information Systems (3C=3H+0L)
This course covers the sources of health information systems and their relation to health agencies. A study is made of the origin and purpose, content, assembly, analysis and use of medical records. The course will introduce software applications used in HCIS. The student will develop an understanding of the implications of integrated versus interfacing disparate HCIS application, database management and patient privacy issues. The course will examine emerging technology in the areas of rural health care, access to Electronic Medical Records, and Regional Health Information Organizations. Methods of compiling, numbering, filing and retention of health information. *Prerequisite: CIS 228*

CIS 333 IT in Healthcare Applications (3C=3H+0L)
This course discusses many applications of information technology in health care. The course will discuss "paperless hospitals" and all IT topics that contribute to the development of such hospitals. These topics include: electronic medical records, Picture Archiving and Communication Systems (PACS), backup systems, disaster recovery systems, medical equipment interfacing, telesurgeory, etc. *Prerequisite: CIS 332*

CIS 334 Information Systems Applications (3C=3H+0L)
This course facilitates students to understand how to use an Enterprise Resource Planning (ERP) system in an organization. Students learn how to configure a large system to support an enterprise with multiple functions and divisions as an application to what they learned in Introductory Information Systems. Current trends and decision making issues are addressed through a cross-functional view of ERP. SAP R/3 will be used as the main tool for implementation and building design alternatives for different types of organizations.*Prerequisite: CIS 351*

CIS 337 Information Security (3C=3H+0L)
This course reviews concepts, theories, methodologies and techniques discussed in IS security literature and practice. These include IS security management, risk analysis and management, physical and logical security, database and telecommunications security, continuity planning and computer abuse. Basic security models will be discussed, namely Bell-Lapadual model, Chinese wall model, etc. Basic concepts of encryption and decryption will also be discussed. *Prerequisite: CS 211*

CIS 340 Web Applications Development (3C=2H+3L)
This course is a continuation to what students have learned in course Introduction to Web Design. At this advanced stage students will start learning about authoring, distributing, and browsing technologies; role, use, and implementation of current Internet tools; TCP/IP: namespace, connections, and protocols; client/server structures; Web document, format, and protocols; scripting languages, VBScript, JavaScript; Active Server Pages (ASP); indexing and search technologies; Internet resource database and search engines; dynamic content with Java; Security and privacy issues. A set of laboratory experiments will provide hands-on experience in the fore mentioned topics. *Prerequisite: CIS 201*

CIS 345 Operating Systems for Business Applications (3C=3H+0L)
The course will introduce principles of Operating Systems. Decision methods and concepts for determining the types of computer operating systems required for a particular business environment. Main concentration will be on Linux Operating Systems, configuration, use, and main advantages over Windows Operating Systems, including some of the more difficult topics like network settings and graphical interface configuration. Basics of using Linux and the popular text editor VI. Configuring Linux to be used for different kinds of business applications, including multimedia related material. *Prerequisite: CS 211 + CPE 231*

CIS 351 Management Information Systems (3C=3H+0L)
This course introduces the essential of Management Information Systems (MIS). All phases from long-range or strategic management information systems planning to development and operation (maintenance) are addressed from a management point of view. Impact that MIS has on management decision making, managing computing and communication resources, security of information systems, enterprise applications. Tools and applications will be used to master management skills on a live project assignment. Information services will be studied as a separate topic. *Prerequisite: CIS 252*

CIS 383 Operations Research (3C=3H+0L)
This course introduces students to problem modeling and solving using mathematical techniques. The discussed applications are diverse including industry, government, and defense. Topics usually chosen from dynamic, linear, and nonlinear programming; sensitivity analysis, decision theory, Markov chains, queuing theory, inventory control, simulation, network analysis, selected case studies.
Prerequisite: CS 112 + MATH 102

CIS 385 Modeling and Simulation of Business Cases (3C=3H+0L)
This course covers the concepts of problem formulation, assumption surfacing, cause-effect relationship; qualitative modeling vs. quantitative modeling and scenario generation, modeling and simulation software. The students will be given assignments in the laboratory and will use the software in analyzing real life business cases. *Prerequisite: MATH 233 + CIS 330*

CIS 390 Practical Training (3C)
This course provides students with the chance to experience the work environment before graduation. Students are required to spend a period of 60 working days as an intern in an institution approved by the CIS department. During this period students need to get engaged in business practices with their mentors and observe and experience the business conduct of these institutions. *Prerequisite: Completion of 75 C.H*

CIS 421 Database Applications (C=2H+3L)
This course is an overview of the use of automated information systems in the management system and its various settings. Object relational model, large objects (multimedia objects, large text objects), SQL99, procedural extensions of SQL, Dynamic SQL, language interfaces with databases, XML and databases. Students will work on a team project to design, implement, and develop an IS application. *Prerequisite: CIS 228 + MATH 241*

CIS 428 Database Administration (3C=3H+0L)
This course provides students with a study of database administration issues such as planning, views integration,

data dictionary, integrity and security, and database implementations using embedded SQL for various enterprises. Also, students will learn how to create an operational database, manage: users; privileges; resources; and database files, start up and shut down, and manage table spaces, segments, extents, and blocks. *Prerequisite: CIS 228*

CIS 429 Data Mining (3C=3H+0L)
In this course students will learn about the advances in computer information systems, machine learning, statistics, intelligent systems and methodologies for the automatic discovery of knowledge from large high-dimensional databases. The course covers basic concepts and techniques, including data cleaning, clustering, classification, association rules mining. Finally, the course surveys data mining tools and applications. *Prerequisite: MATH 233 + CIS 228*

CIS 430 Security and Privacy of Healthcare Information (3C=3H+0L)
This course covers several concepts such as, an introduction to privacy and security of healthcare information systems, how to protect the confidentiality of patient information, types of access and the appropriate availability of healthcare information to health care providers, concepts of limiting unauthorized access, standards and specifications that help keeping patient medical information secure in an electronic environment, common data protection issues, and exchanging clinical information between healthcare organizations need to be addressed. Related case studies will be used and administrative issues will be researched and presented by students as the course project. *Prerequisite: CIS 351*

CIS 442 Business Data Communication (3C=3H+0L)
This course is an introduction to principles of data communications and networking. It covers the telecommunication systems and different protocols and computer networks required to know by business organizations. The coverage extends to communication concepts, transmission media, signal representation and modulation, packet switching and routing, network topology and architecture, network management and Internet protocols TCP/IP. Finally, basic concepts of security in networks are discussed. *Prerequisite: CS 211*

CIS 450 Management in Healthcare (3C=3H+0L)
This course covers three areas of management: human resource management, knowledge management and innovation management. The first area covers the topics of recruitment, selection, training and performance management. The second area covers the topics of KM models, knowledge acquisition, knowledge sharing, knowledge representation, knowledge repositories and communities of practice. The third area covers the theory of diffusion of innovation and the different models of adoption and innovation barriers. *Prerequisite: CIS 351*

CIS 451 E-Business (3C=3H+0L)
This course introduces students to the fundamental concepts of electronic business and commerce. It provides an overview of practical uses of the Internet in commercial applications. The topics include navigation of the Internet, designing web applications and publishing web sites. The coverage extends to the concepts of e-retailing, e-stock trading, e-publishing and e-banding. The discussion of these concepts brings in related issues such as security, privacy, new business processes and cross-border commerce. *Prerequisite: CIS 340*

CIS 454 Business Planning and Control (3C=3H+0L)
This course is designed to introduce students to Integrating Strategy, Accounting and People. It presents the core areas of management accounting and business planning. It also explores relationships between strategy, management accounting information, and the design of control systems, taking into account the needs of both people and organizations. It includes an integrative approach to business planning and control, specific focus on the design of planning and control systems, key techniques of strategic management, management accounting techniques for operational, managerial and strategic purposes. *Prerequisite: CIS 252 + CIS 330*

CIS 455 Accounting Information Systems (3C=3H+0L)
This course covers the impact of computerized information systems on accounting and finance, and their effects on daily business operations. People, technology, procedures and controls that together: maintain essential channels of communication, process and control routine business activities, and alert management and others to significant internal and external accounting events. *Prerequisite: CIS 454*

CIS 456 Financial Information (3C=3H+0L)
This course is designed to introduce students to the nature and the role of accounting information focusing on the company annual reports. It focuses on the role of accounting as an aid to the decision making process. Fundamental analysis approach is covered to assist in analyzing and interpreting a company by investigating its fundamental financial, strategic and human element. More specifically, the course identifies and discusses the various contexts within corporate financial communications, then content, analysis and interpretations of financial data. *Prerequisite: CIS 454*

CIS 491 Graduation Project I (1C)
This course requires students to gather in groups and decide on a project that needs to be carried out under the supervision of a faculty member. The "Graduation Project Guidelines" set by the department council regulates the steps and the time frame for starting and completing this course. *Prerequisite: Completion of 90 C.H*

CIS 492 Graduation Project II (2C)
This course is a continuation of CIS 491 and is also subject to the regulations in the "Graduation Project Guidelines". *Prerequisite: CIS 491*

CIS 493 Special Topics in Computer Information Systems I (1C=1H+0L)
This course grants the CIS department flexibility in offering courses not included in the curriculum. *Prerequisite: Department Approval*

CIS 494 Special Topics in Computer Information Systems II (2C=2H+0L)
This course grants the CIS department flexibility in offering courses not included in the curriculum. *Prerequisite: Department Approval*

CIS 495 Special Topics in Computer Information Systems III (3C=3H+0L)
This course grants the CIS department flexibility in offering courses not included in the curriculum. *Prerequisite: Department Approval*

IS 700 Computer Applications (1C=0H+3L)
This course is designed to help graduate students lacking IT backgrounds to acquire the basic computer skills. The major topics in this course include introduction to computers, computer hardware, computer software, computer viruses, operating systems, word-processing, spreadsheets, presentation software, Internet, World Wide Web, search engines, FTP, telnet and file downloading. *Prerequisite: None (for graduate students in medical faculties)*