| School | School of Arts & Science | | |
|---|---|---|---|
| Major | Information Technology | | |

| Major Requirements | | | |
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| **Code** | **Title** | **Credits** | **Description** |
| CSIT430 | Internetworking and Routing Protocols | 3 | The Routing and Switching Essentials course describes the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. |
| BSTA205 | Introduction to Business Statistics | 3 | This course is designed to provide students with an introductory survey of many applications of descriptive statistics. In this course, students are expected to classify and graphically present data among different measurement levels. They are also expected to calculate measures of location and dispersion, understand the basic probability concepts, and examine discrete and continuous probability distributions. |
| BMIS300 | Management Information Systems | 3 | The course provides an overview of management information systems (MIS) within a business context with emphasis on end-user computing. It covers MIS theory and practice as they relate to management and organization theories; current trends in MIS; managerial usage of information systems; computer hardware, software, and telecommunications; information systems for marketing, finance, accounting, and other business areas; systems development process; and the role of microcomputers. It also provides experiential learning by exposure to various decision-support tools for microcomputers. |
| BMIS360 | Operations Management | 3 | It has been demonstrated by leading firms that operations management can be an effective weapon to penetrate into the global market. The course topics include inventory management, aggregate planning, material requirement planning, master production schedule, and scheduling and managing complex projects. |
| CSIT435 | DBMS Administration | 3 | The Course provides the students the ability to control, manage and maintain the organization□s data. Give a deep understanding on database resiliency and disaster recovery after acquiring knowledge in plan, design, implement and fine tuning the database operations. Students will know how to use and implement policies in an organization as well as securing and auditing the data accessed by others. |
| CSIT485 | System and Network Administration | 3 | This course is intended to prepare its audience to act as a system administrator by implementing Active Directory Directory Service ADDS in distributed environments that can include complex network services and domain controllers. The material covered in this course will assist you (but not limited) to deploy Active Directory Domain Services, efficiently administer and automate the administration of users, groups, and computers, manage the configuration and security of a domain by using Group Policy, directory services auditing, implement effective name resolution with(DNS) and monitor server performance. |
| CSIT480 | Interconnecting Networks | 3 | The lectures focus on presenting the concepts, commands, and practices required to deal with Cisco switches and routers to operate in corporate internetworks through the following structure: 1-Build LANs and understand overcoming problems associated with Layer 2 switching 2-Evaluate the differences between link-state and distance vector routing protocols 3-Configure and troubleshoot OSPF in a single area |

| Code | Title | Credits | Description |
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| CSIT320 | Microcomputer Support | 3 | Micro Computer Support curriculum provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level ICT professionals. The curriculum covers the fundamentals of PC computer technology, networking, and security, and also provides an introduction to advanced concepts. Micro Computer Support is a hands-on, career-oriented e-learning solution with an emphasis on practical experience to help students develop fundamental computer skills, along with essential career skills. Micro Computer Support curriculum helps students prepare for entry-level ICT career opportunities and the CompTIA A+ certification, which helps students, differentiate themselves in the marketplace to advance their careers. |

| Core Requirements | | | |
|------|-------|---------|-------------|
| **Code** | **Title** | **Credits** | **Description** |
| CSCI490 | Information System Development | 3 | Information systems development is a legitimate engineering discipline. Software process models, software engineering methods, and software tools have been adopted successfully across a broad spectrum of industry applications. Effective development of an information system depends on proper utilization of a broad range of information technology, including database management systems, operating systems, computer systems, and telecommunications networks. This course covers the phases from physical system design through the installation of working information systems; Concentrates on using the results of systems analysis and design, typically documented in CASE technology, and either building or generating systems to meet these specifications. The course is a semester-long field project with various hands-on exercises that provide practical experience in building, testing, and installing a system. |
| CSCI335 | Database Systems | 3 | This course introduces fundamentals of database systems. It starts by motivating the need of the database approach in real life scenarios and the benefit of adopting a Database Management System (DBMS). This course includes data modeling (based on the entity relationship model), data normalization and data manipulation SQL queries. Students will learn how to design, implement and query a relational database by using a Microsoft SQL Server DBMS. |
| CSCI305 | Web Programming Static | 3 | The course provides a thorough introduction into the creation of a static Website using HTML5, CSS3, Sass, SCSS and Bootstrap. Also, comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency |
| CSCI300 | Intermediate Programming with Objects | 3 | The course emphasizes the principles of Object Oriented Programming using the Java Programming Language. It starts by an introduction to creating applications using Java. Then the course introduces how to define classes and declare objects and discusses the main topics related to object oriented programming (constructors, methods, dependency, aggregation, inheritance, and polymorphism). Finally, the course introduces exception handling as well as writing to and reading from files.he course emphasizes the principles of Object Oriented Programming using the Java Programming Language. It starts by an introduction to creating applications using Java. Then the course introduces how to define classes and declare objects and discusses the main topics related to object oriented programming (constructors, methods, dependency, aggregation, inheritance, and polymorphism). Finally, the course introduces exception handling as well as writing to and reading from files. |
| CSCI250 | Introduction to Programming | 3 | This course introduces the basic concepts and principles of structured programming in Java. It starts by an introduction to Java showing its syntax and the structure of a program in Java then teaches simple data types, control structures, methods, arrays, and strings. |
| CSCI250L | Introduction to Programming Lab | 1 | This course is a co-requisite for the Introduction to Programming course (CSCI250). The students apply in the lab the fundamentals of programming, explained in CSCI250, by solving lab exercises. The objective of the lab is to implement programming problems using basic data types, selection and repetition structures, methods and arrays. |

| CSCI380 | Software Engineering | 3 | This course provides an understanding of the system development process which links user requirements to the computer based system. This course emphasizes problem formulating and problem solving. Students will learn how to analyze a problem domain and develop the appropriate analysis and design models to formalize the requirements using object oriented methods and appropriate theory. |
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| MATH210 | Calculus II | 3 | The course material includes hyperbolic functions and their inverses and their derivatives integration techniques, improper integrals, sequences, infinite series, power series, Taylor and Maclaurin series and application of power series. The mathematical software Maple will be introduced and used in support of the comprehension of the material. Prerequisites: MATH160 |
| MATH225 | Linear Algebra with Applications | 3 | Introduction to the systems of linear equations and matrices, Gaussian eliminations, matrix operations, inverses, types of matrices, determinants and their applications, vector spaces, subspaces, linear independence, basis and dimension, rank and nullity, inner product spaces and orthogonal bases, eigenvalues and eigenvectors, applications from other disciplines such as physics, computer science, and economics. |
| CSCI300L | Intermediate Programming with Objects Lab | 1 | This course is a co-requisite for the Intermediate Programming course (CSCI300). The students implement and practice in the lab the concepts and the programming techniques they learn in CSCI300 by solving lab exercises. The main concepts of Java language as well as the object oriented programming issues are to be discussed and implemented in this module using the NetBeans IDE. |
| CSCI205 | Computer Science Overview | 3 | This course presents breadth coverage of computer science courses so that students would understand computing and appreciate technology's impact on society. Topics include binary values and number systems; data representation; gates and circuits; computing components; operating systems; file systems and directories; information systems; computer networks; and elementary Programming. |
| CSCI342 | Fundamentals of Networking Technologies | 3 | The ITNcourse introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the CCNA curriculum. |
| CSCI335L | Database Systems Lab | 1 | This course introduces fundamentals of database systems. It starts by motivating the need of the database approach in real life scenarios and the benefit of adopting a Database Management System (DBMS). This course includes data modeling (based on the entity relationship model), data normalization and data manipulation SQL queries. Students will learn how to design, implement and query a relational database by using a Microsoft SQL Server DBMS. |
| CSCI375 | Web Programming Client Side | 3 | This course presents students with the principles necessary to design and develop client-side scripts used to build dynamic websites and applications using JavaScript/ECMAScript 5 and 6 and Typescript, JQuery (a JavaScript library), JSON (a JavaScript-friendly data format), JavaScript as the J in AJAX, and JavaScript in HTML5 form interaction and validation, and modern web frameworks and component-based libraries such as Angular for efficiently developing modular web page components |
| CSCI465 | Operating Systems | 3 | This course presents an introductory study of operating system basics. It focuses on the essential operating system concepts more specifically those related to the process creation and termination, process communication, process scheduling and synchronization, deadlocks, as well as an overview of memory management and strategies used for this purpose. By the end of this course the student should have a full understanding of operating system theory, structure and mechanism. |

| Code | Title | Credits | Description |
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| CSCI465L | Operating Systems Lab | 1 | This course is a co-requisite for Operating System course (CSCI465). The students applies in the lab concepts they learn in CSCI465 by solving lab exercises. The concepts include a fundamental practice of Linux OS and the basics related to process management seen in the course. These basics include process creation and termination, process communication, and process synchronization using semaphore. The student will be able to practice and theses concepts by developing, debugging, and testing programs under Linux language. |
| CSCI392 | Computer Networks | 3 | The Routing and Switching Essentials course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. |
| CSCI410 | Mobile Application | 3 | Today's applications are increasingly mobile. Computers are no longer confined to desks and laps but instead live in our pockets and hands. This course teaches students how to build mobile apps for Android, Students learn to write both web apps and native apps for Android using Eclipse and the Android SDK. The goal of this course is to teach students how to design, implement, test, debug and publish smartphone applications on java based android phones. Students will learn how to take their innovative ideas from conception to the android market through a series of rigorous hands-on programming assignments and group project. This is an introductory course aimed at undergraduate students who have Java programming experience. However, there is a significant amount of programming in this course requiring a commitment on the part of the student. |
| CSCI445 | Robotics Design and Coding | 3 | The course is designed to provide computer science students a developed concept in coding, in which the use of hardware is optimized to guarantee tangible learning skills. Students will be able to use sensors and motors to achieve a certain task, understand development procedures in robotics, work in groups, develop specific robotic solutions by the end of each sessio_n as part of the project based approach used in this classroom, understand the connection between hardware and software in robots and finally fully grasp the sense, plan, and act, essential to have in any automated solution. Students will explore the Arduino Board and the IDE, Learn about Electricity and Electronic Components, work with Resistors, Resistances, Power Rating, Light-Emitting Diodes, Solderless Breadboard, Pulse-Width Modulation, Transistors, Relays, Capacitors, Push Buttons, Reference Voltages, Piezo Buzzers, Temperature Sensors, Shift Registers and LED displays. |

**General Education Requirements**

| Code | Title | Credits | Description |
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| ENGL251 | Communication Skills | 3 | The objectives of this course are to improve students writing skills for academic purposes by developing effective use of grammatical structures; analytical and critical reading skills; a sensitivity to rhetorical situation, style, and level of diction in academic reading and writing; and competence in using various methods of organization used in formal writing. |
| ENGL201 | Composition and Research Skills | 3 | This course focuses on the development of writing skills appropriate to specific academic and professional purposes; the analysis and practice of various methods of organization and rhetorical patterns used in formal expository and persuasive writing; the refinement of critical reading strategies and library research techniques; and the completion of an academically acceptable library research paper. Prerequisites: ENGL150, ENGL151. |
| CULT200 | Introduction to Arab - Islamic Civilization | 3 | The purpose of this course is to acquaint students with the history and achievements of the Islamic civilization. Themes will include patterns of the political and spiritual leadership; cultural, artistic, and intellectual accomplishments Prerequisites: ENGL051, ENGL101, ENGL151. |

| CSCI200 | Introduction to Computers | 3 | The course aims at making students competent in computer-related skills. It is supposed to develop basic computer knowledge by providing an overview of the computer hardware and basic components as well as hands-on practice on common software applications such as Word, Excel, Power Point, Internet and Email. The student will learn how to use the new features of Microsoft Office 2010 mainly Word documents, Excel spreadsheets and PowerPoint presentations. On the surface, MS Office 2010 looks a lot different than previous versions (no more menus_toolbars!), but by learning to understand the dramatically changed, Ribbon-based interface, you'll quickly get back on the road to productivity. |
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| ARAB200 | Arabic Language and Literature | 3 | This course is a comprehensive review of Arabic Grammar, Syntax, major literature and poetry styles, formal and business letters. |