**Department of Information Technology (INFO)**

The Associate of Science Degree (A.Sc) in Information Technology is being offered under a theoretical and more practical learning environment. This degree brings together both technical expertise with problem-solving and communication skills that assist in planning, configuring, implementing, integrating and maintaining the computing and information technology solutions for any organization's computing infrastructure. Students will be exposed to core concentration areas in information technology such as networking system, cyber security, software application development, etc.

It will also develop their strengths in all aspects of information technology via a challenge-based learning approach. In addition, the program will assist the students on how to achieve industry certification such as A+, Microsoft certification, Cisco certification, etc. that will strengthen the students’ credentials and competencies in the field of information technology. This Is a two-year degree granting program with a strong foundation in both theory and practical in the IT industry.

### CURRICULUM

The A.Sc program consists of 63 credit hours (36 courses) of which students must complete to be eligible for graduation.

### OBJECTIVES

* To produce competent IT professionals that will focus on leading a research, designing, developing, and maintaining projects in different areas of computing
* Graduates of the program will be prepared to gain employment as an IT professional.
* Graduates of the program will function effectively as individuals and team members in any workplace, growing into highly technical or project management and leadership roles.

### OUTCOMES

* The student implements, integrates, and manages databases for common workplace needs.
* The student installs and maintains client and server operating systems and their associated network services, users, and file systems.
* Students understanding of security implications and integrates this knowledge into their application of web development and networking/systems.
* The student designs proper network configuration, demonstrates an understanding of network protocols/services and is able to perform network troubleshooting.

Students are to complete 72 credit hours in order to be eligible for graduation as follows:

Required courses: 26 credit hours

Core courses: 46

Total 72

**Study Plan Information Technology**

**Year 1: Semester I (FRESHMAN)**

|  |  |  |
| --- | --- | --- |
| **Course Code** | **Credit Hours** | **Course Title** |
| ENGL 101 | 3 | Freshman English I |
| MATH 107 | 4 | Pre-calculus |
| FREN 101 | 3 | Introduction to French I |
| PHED 101 | 1 | Physical Education I |
| INFO 101 | 3 | Computer Fundamentals |
| ENTS 101 | 1 | Entrepreneurship |
| **Total Credits** | **15** |  |

**Year 1: Semester II (FRESHMAN)**

|  |  |  |
| --- | --- | --- |
| **Course Code** | **Credit Hours** | **Course Title** |
| ENGLISH 102 | 3 | Freshman English II |
| MATH 108 | 4 | Pre-calculus II |
| INFO 102 | 3 | Global Issues in Technology |
| INFO 104 | 3 | Introduction to Digital Media |
| INFO 106 | 3 |  Database Fundamentals |
|  PHYS 101 | 3 | Applied Physics |
| **Total Credits** | **19** |  |

**Year 2: Semester I (SOPHMORE)**

|  |  |  |
| --- | --- | --- |
| **Course Code** | **Credit Hours** | **Course Title** |
| RELI 201 | 1 | Moral Ethics |
| MANG 201 | 3 | Introduction Business Management |
| INFO 201 | 3 | Introduction to Networking |
| INFO 203 | 3 | Research Methods |
| INFO 205 | 2 | Customer Relationship Management |
| INFO 207 | 3 | Database Management |
| INFO 209 | 3 | Network Security Fundamentals |
| **Total Credits** | **17** |  |

**Year 2: Semester II (SOPHMORE)**

|  |  |  |
| --- | --- | --- |
| **Course Code** | **Credit Hours** | **Course Title** |
| INFO 202 | 3 | Operating System |
| INFO 204 | 3 | Management Information System |
| INFO 206 | 3 | Computer Concepts and Hardware |
| INFO 208 | 3 | Computer Programing |
| INFO 210 | 3 | Research Project |
| **Total Credits** | **15** |  |

**COURSE DESCRIPTIONS**

**ENGL 101 Freshman English I**

English 101 provides students with the rhetorical foundations that prepare them for the demands of academic and professional writing. In this course, students will learn and practice the strategies and processes that successful writers employ as they work to accomplish specific purposes. In college, these purposes include comprehension, instruction, entertainment, persuasion, investigation, problem-resolution, evaluation, explanation, and refutation. In addition to preparing students for academic communication, this core-curriculum course prepares students to use writing to realize professional and personal goals. Accordingly, class discussion and readings will address the function of rhetoric and of composing processes in a variety of contexts, with attention to various audiences. Throughout the course, while engaged in a diversity of composing endeavors, students will learn to respond constructively to their peers’ texts and to use peer responses (along with extensive instructor feedback) to improve the quality of their own work.

**ENGL 102 Freshman English II**

Pre-requisite: ENGL 101

English 102 builds upon the critical thinking, reading, and writing capabilities that students developed in English 101. Students learn the processes necessary for collecting and incorporating research material in writing. They learn how to evaluate, cite, and document primary and secondary research sources, and how to develop arguments to support them with sound evidence.

**MATH 107 Pre-Calculus I**

Pre-calculus is a thoughtful introduction to advanced studies leading to calculus. The course briefly reviews linear equations, inequalities, and systems and moves purposefully into the study of functions. Students then discover the nature of graphs and deepen their understanding of polynomial, rational, exponential, and logarithmic functions. Scaffolding rigorous content with clear instruction, the course leads students through an advanced study of trigonometric functions, matrices, and vectors. The course concludes with a short study of probability and statistics.

This course includes a broad series of lessons and activities that offer a variety of modalities for ultimate student engagement and content retention. Each unit contains a series of lessons that include introduction of content, virtual demonstration of that content, and repeated opportunity to practice that content, along with a quiz per lesson, exam per unit, and final exam at the end of the course.

**MATH 108 Pre-Calculus II**

Pre-requisite: MATH 107

This is the second part of a pre-calculus course that is intended to serve as a preparation for a regular two-semester course sequence on differential and integral calculus. The objective of the course is to help student make the transition from studying discrete mathematical objects to studying continuous objects.

Topics include right triangle trigonometry, trigonometric functions, graphs, identities and equations, inverse trig functions, laws of sines/cosines, polar coordinates, vectors, systems of linear equations, matrices, sequences, series, conic sections, parametric equations, permutations, combinations, and binomial theorem.

**FREN 101 Introduction to French**

This course provides an introduction to the French Language and all its aspects. Students will learn the basic language skills, including listening, speaking, reading, and writing.

**ENTS 101 Entrepreneurship**

**Entrepreneurship** is an interdisciplinary **course** designed to teach students how to think and act **entrepreneurial**. Students learn how to start-up and operate a business while in school, thus turning their learning into earning.

**INFO 101 Computer Fundamentals**

This course is an introduction to the world of Computing and Information Technology (IT). The course presents the basic description of information technology concepts, basic computer system hardware and software components, common terminology in information technology, application areas, and integration of computer system components.

**INFO 102 Global Issues in Technology**

This course focuses on how technology enabled communication is changing geopolitics and more broadly, how technology is connecting our world and changing lives.

**INFO 104 Introduction to Digital Media**

The course will present to students basic components of 2-D and 3-D animation development from storyboarding elements to fundamental software capabilities. The course serves as an introduction to the animation history, keyboarding shortcuts, project filling, and career awareness.

**INFO 106 Database Fundamentals**

Provides fundamental knowledge of, and practical experience with, database concepts.  Includes study of information concepts and the realization of those concepts using the relational data model.  Practical experience gained designing and constructing data models and using SQL to interface to both multi-user DBMS packages and to desktop DBMS packages

**RELI 101 MORAL ETHICS**

Explores a variety of ethical and moral issues that impact the individual, family and community. The course focuses on clarification of individual values and the process of ethical decision-making.

**INFO 2O1 Introduction to Computer Networking I**

This class will cover the theory, design, engineering, and installation of networks to connect digital computers. The course will prepare students to plan and implement a network. Also includes peer-to-peer networks, the client-server model, network operating systems, and an introduction to wide-area networks. The network and implementation tools may vary to meet current development trends.

**INFO 202 operating System**

The course covers the classical internal algorithms and structures of operating systems including CPU, scheduling, memory management, and device management. Considering the unifying concept of the operating system as a collection of cooperating sequential processes.

**MANG 201 Introduction to Business Management**

The course is designed to expose the students to many functions of modern business. Topics such as business environment, management, organization, marketing, finance, accounting, and data processing are discussed in an introductory manner.

**MANG 203 Research Methods**

The course will focus on the fundamental skills required to assess data generated and collected. It will provide a process for applying the basic steps required in sorting, organizing, summarizing, and describing variables as well as testing and measuring different sorts of linkages and associations between and among variables.

**INFO 204 Management Information System**

The course includes studies in systems analysis and design, database management application development, website management and other information technology topics.

**INFO 205 Customer Relations Management**

The course will help student to receive the principle of customer relations including the concepts and practices for delighting customers in ways that lead to effective customer satisfaction.

**INFO 206 Computer Concepts and Hardware**

This course is an introduction to computer concepts in which concepts including hardware, operating systems, ethics and security, and applies hands-on interaction with software applications including word processing, spreadsheets, presentations, and other database systems.

**INFO 207 Database Management**

The course emphasizes the understanding of the fundamentals of relational systems including data models, database architectures, and database manipulations. The course also provides an understanding of new developments and trends such as internet database environment and warehousing.

**INFO 208 Computer Programming**

This course teaches fundamental concepts and terminology of computer programming. Students will develop skills in designing and writing simple computer programs. The course requires no programming background. This is a programming intensive course.

**INFO 209 Network Security Fundamentals**

This course discusses the concepts of network security, including: countermeasures and safeguards to networks such as remote access controls, firewalls, intrusion detection systems, data encryption, and virtual private networks.

**INFO 210 Research Project**

The course is intended to help students to learn, practice, and critique effective scientific writing. Students develop writing skills that will be essential for their professional careers.