Management Information System
Course Description

IST 50/IST 1750 - Introduction to Management Information Systems
This course familiarizes the students with the fundamental concepts and principles of management information systems. Topics covered include the strategic role of IT, decision support systems, database and data warehouse, enterprise applications, mobile applications, and social and ethical issues related to information systems.

CS 53/CS 1570- Introduction to Programming:
Programming design and development using C++. Emphasis placed on problem solving methods using good programming practices and algorithm design and development. Topics included are syntax/ semantics, logical, relational, and arithmetic operators, decision branching, loops, functions, file I/O, arrays, output formatting, C-strings, and an introduction to Object-Oriented Programming including the development and use of classes. **Prerequisite:** GFP 302 & 304

MATH 3/MATH 1103   Pre-Calculus Prerequisite: GFP – Mathematics
Basic principles of algebra including the number line and an introduction to equations and inequalities, polynomials, rational expressions, exponents and radicals, the quadratic formula and functions.

PSYCH 50/ PSYCH 1101- Introduction to Psychology:
Designed to assist the individual in developing a growing understanding of basic psychological concepts, an increased awareness of oneself, a continuous interest in human behavior, and an increased effectiveness in relating to other people.

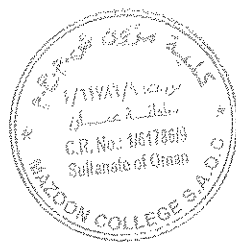### Eng 1120/ Eng 20   Exposition and Argumentation:
This course will provide participants the opportunity to continue to develop the necessary writing skills with special emphasis on expository, descriptive, persuasive (argumentative) and narrative writing. This course will introduce advanced writing concepts and continued emphasis will be place on writing according to the rules of good essay writing.

IST 51/IST 1551 - Implementing Information Systems
Introduction to object-oriented programming in the context of developing and implementing the various components of an information system with particular attention given to system interface such as window and web forms. Class will include numerous projects covering foundational programming.

CS 153/CS 1510 - Date Structures:
Continuation of Object-Oriented Programming, with emphasis on the efficient organization of data through Abstract Data Types and Data Structures. Topics include Linked Lists, Vectors, Stacks, Queues, Trees, Hash Tables, Graphs, and their use in a variety of algorithms. Recursive programming techniques are also covered. **Prerequisite:** CS53/CS 1570.

CS 158/CS 1200 - Discrete Mathematics for Computer Science
A rigorous treatment of topics from discrete mathematics which are essential to computer science. Principal topics include formal logic (propositional & predicate), proof techniques, mathematical induction, program correctness, sets, combinatorics, probability, relations, functions, matrices, graph theory and graph algorithms. **Prerequisite:** GFP 302 and 304.

MATH 8/MATH 1208 - Calculus with Analytical Geometry I:
A study of limits, continuity, differentiation, and integration of algebraic and trigonometric functions. Applications of these concepts in physical as well as mathematical settings are considered.
Prerequisites: MATH 3/MATH 1103

ECO 75/ Econ 1175- Economic Development in the Gulf States:
Principles and concepts of economic growth and development; theories of economic development, economic development since1990s , factors of growth and development in the Gulf countries, employment, health, education, training, entrepreneurship and its role in the development of the region; natural resources and its role in Gulf region.

SPMS 1185/ 85 Introduction to Speech:
This course provides the students with an opportunity to study the components of a good presentation. It gradually guides candidates to prepare and introduce effective presentations. It also aims at increasing self-confidence through controlling stage fright, enhancing participation skills, and involving students in debates and discussion.

CS 234/CS 2889 - Introduction to Computer Organization and Assembly
A detailed study designed to teach the building blocks of a computer system, assembly language programming and the basic computer organization concepts. Subjects include digital logic, performance issues, machine & assembly language, binary arithmetic, and the structure of an ALU.
Prerequisites: CS153/CS1510

Phil1335/Phil35-Business Ethics
This course is an examination of the principles of ethics and issues that guide behavior in the world of business. The topics covered are corporate responsibility, employee rights, and the nature of the free enterprise system, environmental concern and ethical business practices.

IST 151/IST 1552 - Implementing Information Systems – Data Perspective:
Continuation of object-oriented programming in the context of developing and implementing the various components of an information system with particular attention given to database incorporation. Class will include numerous projects covering intermediate topics.
Prerequisite: IST51/IST1551

IST 223/IST 3423 - Database Management system
The course introduces the concepts of database management systems. Issues in database architecture, design, administration, and implementation are covered. **Prerequisite:** IST50/IST1750

MIS210/MIS3010/IST210/3010/CS210/3010 – Seminar:
The students work in the course is devoted to a seminar, for which they are expected to apply computing to their own area of interest. The seminar stated is as broadly as possible, and student's seminar ranges among the current trends in Information Systems in the real time business computing systems.

IST 233/IST 3333 - Data Networks and Information Security
The course provides an overview of current and evolving networking and information security principles. Concepts include network standards and protocols; operation and management; switching and routing; area networks; wireless network infrastructure; security frameworks, policies, and management. **Prerequisite:** IST50/IST1750

IST 231/IST 3131 - Computing Internals and Operating Systems
Design-oriented introduction to computer components and operation. Standard codes; number systems; base conversions; computer arithmetic; Boolean algebra; operating system components including memory management, device management, and I/O management; and related issues are covered. **Prerequisite:** IST50/IST1750

Acc 1130/ Acc130-Accounting I
This course presents a comprehensive and practical approach to modern day principles of accounting. It focuses largely on the accounting for external reporting and the generation of financial information necessary for managerial decision making. This course gives students the opportunity to master accounting concepts and provides a firm foundation for further studies. This course introduces students to the conceptual structure of financial accounting in an effort to develop their ability to read, understand and interpret the general purpose of financial statements [Income Statement, Position Statement, Statement of Retained Earnings, Cash Flow Statements] reported to investors and creditors of corporate business entities.

MATH 21/MATH 1221 - Calculus with Analytical Geometry - II
A continuation of Math 8; differentiation and integration of elementary transcendental functions, integration techniques, improper integrals, conic sections, polar coordinates, introduction to sequences and series.
Prerequisites: MATH 8 / MATH 1208

SOC 1100 / SOC 100 Omani Society:
This course is intended to provide the students with an understanding of the Omani Society and provide an overview of the different sectors of Oman, its geography and history, institutions and policies, access to law, values of society and culture.

CS 285/CS 5600 - Computer Networks
This course focuses on the Internet and the general principles of computer networking. It covers the TCP/IP model from the application layer to the link layer in a top-down approach. It also exposes students to multimedia networking, network security, wireless and mobile networks. It is a networking class targeted for entry-level graduate students.
Prerequisite: CS1/CS1010

IST241/IST 4642 - E-Commerce Architecture
Course will cover the issues associated with computer architecture, as it relates specifically to e-commerce applications. Topics will include ecommerce systems and processes, specialized software, and databases.
Prerequisite: IST50/IST1750

MNGT 325/ MNGT 4325 Entrepreneurship: Creativity & Innovation:
This course is interdisciplinary, it is designed to help students unfold and develop their personal attributes required to become a successful entrepreneur through case studies, and creative problem solving. Students will identify, discuss, and grow an idea about a business they might start.

IST 354/IST 4680 - Introduction to Web and New Media Studies
The course covers web culture, including topics such as social media, citizen journalism, crowd intelligence, privacy, and copyright. **Prerequisite:** IST50/IST1750

PHIL 212/PHIL 2001 - Ethics for Computer Usage
The course familiarizes the students with the fundamental concepts and principles of Computer Ethics. Topic covered includes the Philosophical Ethics, Professional Ethics, Property Rights of Computer Software, Accountability and Computer and Information Technology, Social implication, and Social Values. **Prerequisite:** None

STAT 211/STAT 3111 – Statistical Tools for Decision Making
An introduction to statistical techniques commonly used in management decision making. Topics include statistical inference of population parameters, linear regression, basics of experimental design and analysis, analysis of categorical data, and the use of statistical software.
Prerequisite: MATH3/MATH1103

CS 238/CS 2300 - File Structures and Introduction to Database Systems
Course covers major topics in file structures and database systems including techniques for disk access and organization, record and file structures, index structures, sequential file, dense/sparse and secondary indexes, B-trees, range queries, insertion/deletion, hash tables, fundamentals of database systems, the ER model, relational model, algebra, and SQL.
Prerequisite: CS304/CS5300

IST 361/IST 4261 - Information Systems Project Management
The course overviews general project management principles and then focuses on information system application development. Topics include requirements analysis, project scheduling, risk management, quality assurance, testing, and team coordination. **Prerequisites:** IST50/IST1750

MIS 397/MIS 4096 - Capstone: Senior Design

Course will cover issues and problems relating to application and integration of business and management system skills, Group projects will require work as a member of a team, Creative Problem solving and application of business systems principles of real and simulated problems. **Prerequisite:** Senior Level

CS 381/CS 5801 - The Structure of Operating System

The hardware and software requirements for operating systems for nonprogramming, multiprogramming, multiprocessing, time sharing, real time and virtual systems. The concepts of supervisors, interrupt handlers, input/output control systems, and memory mapping are discussed in detail. **Prerequisite:** CS284/CS3800

Major Elective:

IST 211/IST 2211 - Web Design

A detailed study designed to teach the building blocks of e-commerce and Web designing. Subjects include basic concepts and architecture of e-commerce and designing, developing and hosting a web site through HTML, XML and advance web site features through Front Page, VBScript and ASP.

MATH 208/MATH 3108 – Special Problems (Linear Algebra)

Systems of linear equations, matrices, vector spaces, inner products, linear transformations, determinants, and eigenvalues are studied.
Prerequisite: MATH3/MATH1103

ERP 2110 Introduction to Enterprise Resource Planning: Prerequisite: IS&T 1750.

Fundamentals of enterprise resource planning (ERP) systems concepts, and the importance of integrated information systems in an organization. The focus of this course is on illustrating procurement, production, and sales business processes using ERP software. Use of SAP as an example ERP system.
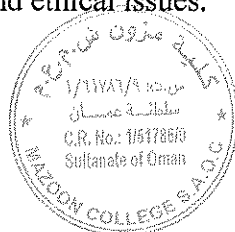
Art 1180/ Art 80 Appreciation:

This course will provide essential knowledge in experiencing the visual arts. The course will develop critical understanding of Islamic, Egyptian and Roman arts. Participants will be exposed to fine arts, fabric and glass paintings and encouraged to do the same for their project. It provides firsthand experience in performing the skills they learn in their art class.

CS 3601 - Digital Forensics

Planning/managing incidents and response related to digital forensics; identifying, collecting, and preserving digital evidence; live/dead approaches covering systems as a whole emphasizing file system forensics; analysis and interpretation of artifacts culminating in a final project consisting of a collection, analysis, and report; legal and ethical issues.
Prerequisites: CS 3600

CS 5403 - Introduction to Robotics
This course provides an introduction to robotics, covering robot hardware, fundamental kinematics, trajectories, differential motion, robotic decision making, and an overview of current topics in robotics.
Prerequisite: CS53/CS1570

IST 351/IST 5251 - Leadership in Technology-Based Organizations
The course focuses on the knowledge and skills necessary for the development and implementation of effective strategies for the management of technology-based organizations. This involves: developing a general management perspective on technology and innovation, examining the problems of new product development, identifying distinctive technological competencies, licensing and marketing technologies, assessing the organizational and industrial context of technology. Prerequisite: Senior or Graduate Standing.
Prerequisite: IST50/IST1750

IST 243/IST 3343 - System Analysis and Design
Introduction to the processes by which business information systems are analyzed, designed, and introduced into the business environment. Topics include investigation of existing systems, requirements analysis, logical and physical design, database design, forms design, and report analysis. **Prerequisite:** IST50/IST1750

IST 4641 - Electronic and Mobile Commerce
Introduction to fundamental concepts of management and application to IT and support of commerce. Examines the use of IT in business processes and the management issues of integrating IT into organization processes to gain a competitive advantage. **Prerequisite:** IST50/IST1750

BUS 110 / BUS 1110 -Management and Organizational Behavior:
The course covers classic and current management principles as well as the study of the behavior of individuals and groups in an organizational setting. Topics include motivation, leadership, organizational design, and conflict resolution.