

# **Bachelor of Business Information Systems**

To obtain the Bachelor of Business Information Systems you will need to complete the subjects listed as core subjects. The subjects combine to provide a comprehensive blend of academic, practical and leadership skills to help you succeed in the nursing profession.

## **Year 1**

### **Programming Fundamentals**

The broad aim of this subject is to develop in students an understanding of the fundamental principles of programming. The subject focuses on the object-oriented view of problem analysis and solving. It enables students to develop skills in the design and implementation of well-structured programs in a range of domains.

### **Problem Solving**

This subject introduces the analysis of problems and the strategies used to manage them, primarily in the context of computing. Problem classification is introduced, as are formal and informal approaches to problem solving. The importance of method and method classification for problem solving strategies is motivated, and the need to compare and analyse strategies is justified. Introductory tools for the analysis of strategies are covered. Appropriate representations for problem solving are explored.

### **System Analysis**

This subject provides an introduction to different techniques and technologies for understanding and specifying what a computer based information system should accomplish. It examines the complementary roles of systems analysts, clients and users in a system development life cycle. Students will learn different fact-finding techniques to elicit system requirements and how to develop business models, data and process models, and object models representing a system. Students will also make use of a Computer Aided Software Engineering (CASE) tool to build those models that capture the specifications of a system.

## **Data Management and Security**

The subject investigates three major areas of modern data management systems: data modelling, data processing, and data security. The goal of the subject is to learn the fundamental concepts in data management including conceptual modelling, the relational data model, processing of relational data with Structured Query Language (SQL), enforcing the concepts of data confidentiality, integrity, and availability data management systems. The subject develops the skills in the design, implementation, processing, and security of data management systems. The subject covers the following topics in data security: discretionary access control, user management, enforcing data security and integrity. The subject also explains the important ethical issues associated with responsible disclosure, responsibility, liability, security weaknesses, and privacy in data management systems.

## **Object Oriented Design and Programming**

The aims of this subject are to consolidate and extend student's knowledge and skills in structured programming and to develop their understanding and practice of object-oriented programming. To achieve this aim the subject will provide students with an opportunity to develop further programming skills and good coding style; develop skills in using the object oriented concepts of encapsulation, inheritance, polymorphism, access control, overloading and messaging; develop and display competency in the design and implementation of object oriented programs to solve business problems.

## **Networks and Communications**

This subject introduces students to the fundamentals of data communications and computer networks. Topics covered include: different types of data and the history of data communications; signals; modulation and multiplexing, switching and routing, network architectures: LANs, WANs and the Internet; Internet services and protocols; and emerging topics. The subject explains computer networking models that interconnect diverse communication systems, including the OSI reference model and the TCP/IP protocol Suite.

## **Introduction to Web Technology**

This subject introduces students to fundamental web technologies that underlie the World Wide Web and its commercial applications. Topics include an overview of internet communications, an introduction to the web-browser/web-server client-server systems, HTML5/CSS/XHTML/XML markup languages, web forms and client side scripting. Students will build working web-sites with dynamic content. The subject explains the differences between client-side and server-side Web development, and demonstrates how to build simple applications using scripting and other tools. The subject also covers current Web standards and future W3C recommendations.

## Year 2

### **Mathematics for Information Technology**

MATH223 is a core subject for information technology students, providing key mathematical and statistical knowledge. The subject is split into two strands: the Calculus Strand and the Data Analysis Strand. Calculus Strand: This strand begins by reviewing mathematical principles and tools that support analysis in the IT workplace, including algebraic concepts, summation, polynomials, integrals, derivatives, and special functions (exp, log). The material is applied to understand essential concepts in mathematical finance. The strand concludes with project evaluation techniques, such as return-on-investment. Data Analysis Strand: This strand applies the core mathematical concepts to discrete and continuous probability. The strand begins with basic data analysis, including univariate and bivariate data, association, correlation and simple linear regression. Study continues with discrete probability models (binomial and Poisson) and continuous distributions, including normal and uniform. The subject ends with confidence intervals and introductory hypothesis testing, such as the Chi-squared test for association and one-sample t-test.

### **Human Computer Interaction**

The subject provides students with an understanding of Human Computer Interaction (HCI) principles and practices, and how to apply them in the context of developing usable interactive computer applications and systems. The subject also emphasises the importance of taking into account contextual, organisational, and social factors in the design of computer systems. Students will be taken through the analysis, design, development, and evaluation of user interfaces. They will acquire hands-on design skills through an interaction design project. The subject will cover topics including user-centred design, the development process, prototyping, usability testing, measuring and evaluating the user experience and accessibility.

### **IT Project Management**

The primary aim of this subject is to acquaint students with the methodologies and processes associated with the task of managing information technology and software development projects. Topics may include: stakeholder and impact analysis, setting project objectives and conflict resolution, project planning and the selection of appropriate project approaches, software project effort estimation, cost-benefit analysis, activity planning and scheduling, risk management, contract management, quality assurance, professional and ethical responsibilities, and case studies.

### **Principles of eBusiness**

This subject aims to provide students with an understanding of eBusiness fundamentals. Today most businesses compete in a global environment and a sound strategy for online business is essential to facilitate this. This subject covers key areas of eBusiness, including: business-to-consumer, business-to-business and business-to-government electronic commerce (EC); online business models and electronic payment systems (EPS) and EC technology

basics. Standards, regulation and policy, security and social and economic issues will also be considered in the contexts of business Intranets, Extranets and the Internet. The subject also introduces the 'Patterns for eBusiness' approach to eBusiness analysis and design.

## **Management Information Systems**

This subject introduces students to an overview of all the major Information Systems found in a typical business covering systems such as finance, HR, payroll, inventory, sales, CRM, SCM and ERP. Students will be introduced to the processes involved in managing information systems in the contemporary business environment. Students will gain a deep understanding of the issues surrounding the key components of IS (i.e. people, software, hardware, data, and communication technologies), systems and development concepts, technology acquisition, and IT-enabled improvement in quality, speed and agility in modern organisations.

## **Year 3**

### **Software Development Methodologies**

The subject introduces to students modern methodologies for software development. Topics may include software development life cycle activities, the role of software process models, different types of evolutionary models, Unified Process and UML, agile principles of software development, Dynamic Systems Development Method (DSDM), Scrum and extreme programming, test driven software development, the Capability Maturity Model Integration (CMMI), software engineering knowledge management, software architecture, and emerging trends in software development processes.

### **Project**

This subject is the capstone project for undergraduate students in the School of Computing and Information Technology it aims to provide students with: practical experience in complete systems development. The projects connect groups of students with supervisors and clients that are facing an ICT-based problem for which the students are required to find innovative and creative solutions. Working in groups, students design, implement, and document a system. This involves: project planning and scheduling, seminars and individual presentations, group coordination, research of proposed application domain, use of design methodologies, design documentation, coding, module and system integration, testing, verification, and implementation. Teams will meet weekly with supervisors to discuss progress and problems.

### **Internship**

The core of the internship program is a six to eight weeks period of work placement spent in supervised work in environment-related work during the summer. The summer internship is

not compulsory and when carried out as per the regulation of the College of Informatics and Computer Science can be counted as one of the elective courses only, so it cannot substitute for any required course. While the precise nature of internship will vary considerably, students will normally gain experience in some of the following areas: Software/hardware analysis, design, development and testing; The use and application of Software/Hardware tools in the design, development and implementation of problem solutions; Database design and development; Database implementation and maintenance; Installation and testing of hardware/software systems; Systems maintenance; Customer support; Software support for research projects; Software/Hardware evaluation and re-engineering. The internship requires a good deal of planning and arrangements from both the student side and the University side and have to be made in advance for it to serve its purpose. Students interested in the internship program must i) secure an internship position, and ii) approach the college before the beginning of the summer semester and submit an internship proposal. The university will do its best through the career advisor office and the College to secure internship positions every summer but it does not guarantee a placement for students. The internships available through the university will be distributed on a merit base and with consultation with external partners.

## **Business Subjects**

### **Introduction to Management**

Wherever organisations exist, a manager's role emerges. Organisations rely on managers and the management function for the efficient and effective running of their operations. This subject introduces students to the various functions involved in managing an organisation. Students learn key management theories and concepts related to organisational culture, social responsibility and ethics, motivating and managing employees, planning, strategic management, decision-making, leadership and foundations of management control. Throughout the subject students reflect on how the different interests and values between organisational stakeholders affect various management processes, and the implications of managerial decisions on the internal and external environments.

### **Accounting Fundamentals in Society**

This subject introduces the role of accounting information in society including its social and ethical aspects relating to both the individual and the organisation. The subject introduces basic accounting language, concepts and techniques to identify, classify, process, record and present accounting and financial information. The subject also considers accounting information that can be used for making decisions about past and future economic events in a variety of business and social settings.

### **Introductory Principles of Finance**

FIN111 introduces fundamental concepts of corporate and personal finance, financial institutions, and financial planning. In doing so, the inter-relationships between finance, financial institutions and markets, and society are explored. A theoretical strand contextualises finance and financial planning within their respective regulatory frameworks.

A technical strand equips students with fundamental financial skills for business and an understanding of the key principles of finance. The subject provides a broad and synergistic overview of the financial services industry locally and globally. In its exploration of ethical issues, the subject supports a socially responsible approach to business.

## **Marketing Principles**

Marketing is a set of activities and processes for creating, communicating and delivering offerings and facilitating satisfying exchange relationships in a way that delivers value for consumers and society. Organisations need to know how to define and segment a market and how to position themselves strongly by identifying marketing opportunities and problems, and developing products, services, experiences and ideas for chosen target markets more effectively than their competitors. Marketing is essential for all organisations including manufacturers, wholesalers, retailers, professional services firms including lawyers, accountants and architects, and non-profit institutions including charities and museums. The subject examines the fundamental concepts underpinning the marketing process and theories relevant to the study and practice of marketing. It serves as a foundation for further studies in business by developing an overview of where marketing fits within organisations and what framework marketing provides for enhancing and enabling the conduct of a business.

### **Take 1 Arabic Language Subject or Challenge Test**

## **Arabic Language**

Language is key to everything we do. From verbal communication and the way, we talk, to non-verbal communication and the emojis we use in our text messages, to the visuals we use to construct compelling visual stories, language is how we communicate. Living, studying and working the UAE, having a basic understanding of Arabic language can give you a huge competitive advantage. This introductory subject provides some of the basics of Arabic language, and you'll leave this subject able to communicate on a basic, conversational level.

### **Final General Elective**

## **Muslim Societies Across the Ages: Tradition, Secularism & Modernity**

This course aims to provide students with critical thinking perspectives about the relationship between history, religion and culture, in this case, the formation of Islamic culture(s). A sociological introduction to the study of Islamic culture will introduce students to the emergence of Islam in its 7th century historical context, its relationship to the other monotheistic traditions of the region, its growth into the dominant cultural paradigm of the Near East by the 9th century, alongside its impact and contribution to key fields of medieval science and knowledge. A historical approach will help students acquire familiarity with key Islamic texts, institutions, concepts of authority, traditions of jurisprudence and spirituality, artistic expressions, as well as milestones in Islamic history. The course wraps up with a discussion of issues central to contemporary debates relating to Islamic culture, such as identity, gender, multiculturalism, pluralism, secularism and religiosity.

## **Choose 1 UAE Studies Subject**

### **Urban Sociology**

The societies and places in which we live are very complex, and the interactions of individuals, as well as social institutions, have a direct impact on the life path we take. This course provides an engaging and accessible introduction to urban sociology and the study of cities, with particular focus on the experience of the UAE and Dubai. We'll examine a number of substantive urban topics, including but not limited to the growth of cities and urban spaces in the UAE, sustainable development and practices, and the 'built' environment.

### **Public Health**

This course will introduce Public Health as an interdisciplinary science concerned with topics central to the population of U.A.E and on a wider scale of GCC region with regard to their physical, mental, and social well-being. The course focuses on current pertinent public health problems, assessing causation and examining intervention and management strategies at personal, social, and organizational levels.

### **UAE and International Relations**

This course offers an overview of the UAE's rapidly emerging significance and its increased roles in global networks of international relations and diplomacy. Within that overview, the course examines the internal dynamics of the UAE, in particular, the priorities that emerge from a specific workforce dependency, a construction and tourism industry that looks 'East' as much as it does 'West'. Thus the new 'Look East' policy complements the country's historical partnership with the Western states. With the expansion of its global ties and relations, the UAE also becomes more sensitive to transnational issues, such as immigration, fluctuations in international markets or terrorism.

### **Society and Environment – Resources, Challenges, Futures**

This subject aims to provide an understanding of relations and interactions between society and environment, including impact of societies on the Earth and its processes. Topics covered include the agricultural, industrial and urban revolutions; governance of environments; Indigenous land management; climate change; sustainability; and environmental impacts in the context of the Anthropocene.