

MSc Strategic Information Systems modules 2012-13

Aligning IT and Business Strategies

This module takes the view that organisations need to define what they are trying to achieve in strategic terms, and then design how they are going to achieve it in terms of processes, people and technology. By adopting this approach, the investment in IT can be aligned with the business, delivering benefits that can be actively and effectively managed. This module introduces the principles, concepts, methods and techniques that underpin understanding, and strategic decision making for the modern enterprise. You will identify and utilise appropriate tools, techniques and concepts of analysis and be introduced to System Dynamics as a method of modelling complex information systems and business processes.

Business and IT Management

This module focuses on the skills and knowledge required to design, develop, implement and manage enterprise-level information systems in order to ensure that the expected business benefits are achieved. The module tackles the wider business environment and in the context of current trends and developments in information systems, students will develop their own project management skills together with an understanding of how organisations and IT can influence each other.

Distributed and Cloud Computing

The aim of this module is to familiarise students with a wide range of distributed systems, from truly decentralised peer-to-peer environments such as Gnutella and Jxta, to brokered Web Services and modular co-operating services supported by Jini through to centrally coordinated structures such as social networking sites and Clouds. The module studies the organisation of distributed systems, focusing on various architectural styles used in their development; core technologies to implement distributed systems; various models and infrastructures to support Cloud computing – such as virtualisation; and emerging themes in distributed computing, such as fault tolerance and policy driven autonomic self-management.

E-Commerce and Innovation

This module will develop your understanding of the new business opportunities afforded by the Internet. You will examine the concept of innovation and the techniques and underpinning technology associated with electronic commerce via case studies of companies both large and small. Group work will be used to develop your practical skills and will include the development of a business plan.

Human Centric Computing

This module is concerned with how systems can deliver information effectively to end users, and how end users can interact with computing. Beyond the traditional desktop GUIs (Graphic User Interfaces) this module explores the next generation of interaction mechanisms (3D displays, gestures, tactile feedback, Augmented Reality, etc) in context and from a human centric perspective. This is

considered with reference to theory from Human Computer Interaction (HCI), Visualisation and Pervasive Computing. Students will deconstruct, explore and evaluate case-based examples - including a state-of-the-art minimally invasive surgical simulation system - in order to understand and apply human centric system design methodologies.

Information Modelling and Management

This module sets the social and organisational contexts in which information is retained, used and exploited. Approaches, processes, methodologies and techniques commonly used for designing, deploying and managing information systems are undertaken. Students will undertake both theoretical and practical work to develop an appreciation of the issues and importance of design, which is fundamental in many major IT projects.

Information, Network and Cyber Security

This module focuses on the concepts of information security within the context of an organisation's IT and information systems. The fundamentals of network security are taught, from internal networks through to issues arising from Cloud computing. The module introduces the skills required for risk assessment and to design information security policies in line with standards, legal and ethical aspects of information security. The technical concepts of cryptography are introduced, and students will be taught to evaluate and use applications to secure information, networks, and manage personal identities.

Organisations, Complexity and Systems

This module examines the nature of complexity within modern organisations and introduces concepts, methods and ways of thinking that can deal with such systems. In particular it will present different ways of looking at the organisation and will consider the characteristics of methodologies appropriate for modelling organisational problems. Students will practice developing qualitative models which will influence information systems designers and enterprise managers in their decision making. Using the Systems Thinking methodology, models of business processes and supporting IT infrastructure will be developed. This will enhance abilities in gathering and assessing a project's needs and requirements and involves constructing competing arguments in the context of information systems design and implementation.