LAUREATE
ONLINE EDUCATION

UNIVERSITY OF
LIVERPOOL

Master of Science in Information Systems management

The MSc in Information Systems Management programme responds to the growing need for IT professionals to acquire the more general management skills and knowledge that are often provided by an MBA, but to study these management issues within the context of fast-moving developments in technology. At the same time, it provides those already in management positions with updated, cutting-edge IT knowledge, so you don't have to choose between these two complementary aspects of IT management. A combination of core and elective modules enables you to personalise the programme to your individual requirements.

PROGRAMME OUTLINE

Our MSc in ISM programme aims to provide a bridge between technology and management, by giving you the knowledge and skills you need to be an effective manager in an Information Systems-rich environment. It is appropriate for those moving into or already occupying managerial positions in an IT-related field. Its core and elective modules will update your theoretical and practical knowledge of Computer Science, for example in Software Engineering or Systems Analysis. At the same time, it will develop the business skills traditionally covered by an MBA, such as Managing People and Project Management.

PROGRAMME STRUCTURE

The programme has six core modules, including Computer Structures, which covers the foundations of computer science, and four management modules. The student then chooses two electives in computing, enabling them to specialise according to their particular needs; followed by a dissertation. Each module lasts eight weeks and it is possible to take a break of three weeks between modules, if work or other commitments demand it. By taking one module at a time, you can explore a specific subject in depth without distractions.

PERSONALISED STUDY

Students can customise their degree according to their individual requirements.

A Core modules

- Computer Structures
- Professional Issues in computing
- IT Project Management
- People, Technology and Management
- Managing Organisational Resources
- Principles of Marketing

B Elective modules (students may choose up to two of the following)

- Systems Analysis and Design using an Object-Oriented Approach
- Management of QA and Software Testing
- Security Engineering
- Object Orientated Programming
- Programming the Internet in Java
- e-Commerce
- Managing the Software Enterprise

C Elective modules (students may choose up to one of the following)

- Computer Communication and Networks
- Databases

If students complete two modules from the group B electives, then they are not required to choose any electives from group C.

D Dissertation

Students refine their dissertation topic in conjunction with their Personal Dissertation Advisor, an academic supervisor who will provide support throughout the study and writing process.

PROGRAMME DURATION

The programme takes on average 30 months to complete. However, since students progress at their own pace, you may choose to complete your studies in as little as 24 months or spread them over 60 months.

MSC MODULES

Core modules:

COMPUTER STRUCTURES

Aim: To provide a comprehensive overview of core software and hardware technologies.

This module covers everything from computer architecture to databases, algorithms, languages, operating systems, communications, computer networks, artificial intelligence and the theoretical foundations of computation. It will give you a sound theoretical and practical grounding on which to build your understanding of future technical developments.

PROFESSIONAL ISSUES IN COMPUTING

Aim: To provide a broad understanding of the social and legal context in which information technology operates.

This module examines the relationship between IT, society and the law. It helps develop an understanding of external matters affecting computer systems and organisations, provides an overview of professional and ethical issues and develops the skills required to manage systems in a way that is both effective and sensitive to their operating environment.

IT PROJECT MANAGEMENT

Aim: To provide a full understanding of the management roles, responsibilities and techniques needed in technology projects.

This module shows how technology project management adapts to the evolution of a computer system from concept to implementation. You will master all areas of the subject, including organisation, work breakdown structure and scheduling, resources and project financing, project control and evaluation, management considerations, critical success factors and risk management.

PEOPLE, TECHNOLOGY AND MANAGEMENT

Aim: To provide the keys to understanding and effectively managing people in IS-rich environments and high-tech business.

Learn to manage people in a technologyrich environment. As well as the traditional aspects of organisational behaviour, such as individual/team roles, human resource management and change management, you will examine the use of information technology in support of managerial functions, including outsourcing, off-shoring and other critical issues fundamental to the way contemporary organisations are run.

MANAGING ORGANISATIONAL RESOURCES

Aim: To deliver a broad understanding of the issues, language, tools and techniques of finance, accounting and operations management to significantly improve business efficiency.

This module provides a sound foundation for the non-specialist in accounting, finance and operations management, and the business benefits they can generate. You will understand mathematical modelling and how to use computer-aided quantitative tools for decision-making. You will also explore operations strategy, forecasting, materials management, supply chain management and project management.

PRINCIPLES OF MARKETING

Aim: To provide an understanding of the roles, responsibilities, and management techniques needed by a technology-savvy marketing manager.

Learn to apply marketing strategy in the context of various high tech industries and products, where innovation, market uncertainty, abrupt technological shifts and short product lifecycles abound. You will study the use of technology in marketing and the marketing of technology-rich products and services, with a focus on international marketing, ethics, sourcing and marketing strategy.

Elective modules:

SOFTWARE ENGINEERING

Aim: To provide a firm theoretical foundation and practical skills in software engineering.

This module encompasses the theoretical foundation and practice of the three key phases of problem definition, software development and maintenance. It covers identification, definition, design, analysis, verification and management of basic requirements, coding, testing, evaluation and quality assurance. You will emerge equipped to lead a programming project and deliver products on time and within budget.

SYSTEMS ANALYSIS AND DESIGN USING AN OBJECT-ORIENTED APPROACH

Aim: To help you develop the critical skills to understand complex systems and problems and to create automated solutions.

This module takes a modern objectoriented approach to modelling systems and producing designs for software packages that can automate those systems. It will provide the skills you need to master this technique, as well as how to use the Unified Modelling Language (UML) to describe these models.

MANAGEMENT OF QA AND SOFTWARE TESTING

Aim: To provide an extensive understanding of how to guarantee software quality, including testing, maintenance and effective management.

This module provides the techniques you need to design and implement tests, conduct inspections and employ release and maintenance procedures. It also addresses key management aspects of the quality assurance process.

SECURITY ENGINEERING

Aim: To provide a grounding in the principles and practice of building secure distributed systems.

This module provides a foundation in the principles and practice of building secure distributed systems. You will discover how to protect systems against malicious attacks, using your understanding of technologies such as cryptology, software reliability, secure message transmission, tamper resistance, secure printing and auditing.

OBJECT-ORIENTED PROGRAMMING IN JAVA

Aim: To provide a theoretical and practical understanding of objectoriented programming and design using Java.

This module develops the essential problem-solving and programming skills you need to write well structured objectoriented programs in Java. On the way you will explore many other important techniques (such as modern distributed systems and component technology) based on the concepts that have made object-oriented programming today's predominant software development method.

PROGRAMMING THE INTERNET

Aim: To give you the theoretical and practical tools necessary for building advanced, content-rich internet sites.

This module covers markup languages and advanced technologies, including HTML, JavaScript, DHTML, CSS, XML and CGI. On completion, you will be able to design and create an advanced website and will be equipped to undertake complex internet projects.

E-COMMERCE

Aim: To provide an overview of key e-commerce issues.

An introduction to the fundamentals of e-commerce, from business models through technical infrastructure and implementation to social, legal and ethical considerations. You will act as a CIO/CEO working on an e-commerce business proposal, with evaluations from a peer review group. Learning to build an e-business holistically in a risk-free environment will help you become a more effective and successful manager.

MANAGING THE SOFTWARE ENTERPRISE

Aim: To examine the development, use and evolution of software, and the wider contexts of its use.

This module focuses on the roles and activities involved in managing software engineering within an organisation. Using human, social, knowledge, business and technical perspectives, it will enable you to understand the various contexts and processes surrounding the acquisition, development, maintenance and management of software.

COMPUTER COMMUNICATIONS AND NETWORKS

Aim: To familiarise you with the principles and techniques of computer networks.

As the development of computer communications accelerates with the exponential growth of the internet, this module examines a growing range of hardware technology protocols and network applications. You will learn the principles of communication networks and protocol architectures, assessing the suitability of different switching and multiplexing techniques for carrying a variety of distributed systems.

DATABASES

Aim: To equip you with a thorough understanding of the fundamental principles of database construction.

As already dominant database technology develops even further, you will analyse how data is stored, manipulated, queried (with an emphasis on relational databases) and backed up. You will also become acquainted with various paradigms and technologies (parallel as well as distributed) related to database design, implementation and maintenance.

DISSERTATION

Aim: To undertake a piece of original research to demonstrate your mastery and integration of knowledge you have acquired during the programme.

You choose your dissertation topic in conjunction with your personal dissertation advisor, an academic supervisor, who will provide support throughout the study and writing process. Your dissertation will apply your new knowledge and work experience and must have merit beyond the narrower scope of your particular need.