**MAE FAH LUANG
UNIVERSITY**
*School of
Information Technology*
www.mfu.ac.th

I²IT
**INTERNATIONAL INSTITUTE
OF
INFORMATION TECHNOLOGY**
School of Technology
www.isquareit.ac.in

Master of Science Programme in Advanced Information Technology
in collaboration with International Institute of Information Technology, India

MFL University, Thailand

I²IT India

This course is unique and designed by practicing IT managerial specialists, taking into account the needs of the IT industry. The curriculum includes inputs from management, IT and entrepreneurs. The programme covers Advanced Software Technologies, Project Management and Enterprise Resource Planning (ERP), e-Business Management, IT Human Resource Management and others. The course prepares the student for a career in executive positions in IT and related industries.

THE PROGRAMME

This 2-year, 4 semester, 46 credits Master's programme in Advanced Information Technology is designed to equip students to accept responsibilities in the following areas:
- Business Management empowered by advances in ICTs
- Project Management in core IT
- Entrepreneurship in IT
- For career advancement of professionals

COURSE STRUCTURE
- Successful completion requires 46 credits
- Project work worth 6 credits in the last semester, for industry exposure

DISTINCTIVE FEATURES
- Complete course curriculum designed to meet modern business management requirements
- Exposure to e-Business technologies such as ERP, CRM, SCM and EAI
- Web technologies such as EJB, JSP, XML, ASP and .NET
- Hands-on experience with SAS and SAP
- Tandem teaching and practice with emphasis on case studies and simulation

ELIGIBILITY
- Graduates with a Bachelor's degree
- Basic background in Information Technology

COURSE COMMENCEMENT
The course commences in June

EVALUATION AND CERTIFICATION
- Periodic evaluation and performance improvement programme
- Module-wise credits
- Balanced assessment based on internal assignment, examination and project work
- Detailed transcript with a joint degree by both universities

CURRICULUM
FOUNDATION AND AUDIT COURSE

- **English (non-credit)**
  This module is designed for students aspiring to learn an important foreign language for business communication to avail of global career opportunities. An English language course will be a pre-requisite for students who do not have proficiency in English.
- **Communication Skills and Leadership Training (2 credits)**
  This module aims to improve the students' communication skills and to develop leadership qualities. The student will be taught, time management, self management, leadership, team building and negotiation techniques.
- **IT Research Methodology (1 credit)**
  This module introduces the basic research methodology which the students can utilize in carrying out their researches in the 4th semester. It also covers research and technical writing techniques and presentation skills.

CORE COURSES

- **Database Technologies (2 credits)**
  This module focuses on the theory of database engineering. The module includes topics like file processing, introductory data structures, the differences between file processing and database processing, fundamental concepts of the relational model, normalisation of data, database integrity issues, database design, SQL and an overview of the functions of a database management system. Object Oriented (OO) database and comparison between relational and OO databases will also be covered.
- **Web Engineering & Web Application (2 credits)**
  This module exposes students to the various principles of creating high quality web applications. The topics covered include web application development process, web engineering process and design, testing and deployment phases in the web application development life-cycle and the S/W tools required for web application

- **Enterprise Application Architecture (2 credits)**
  This module aims to consolidate the knowledge on this particular business software for running every aspect of a company including managing orders, inventory, accounting, and logistics. Well known ERP (Enterprise Resource Planning) software providers include BAAN, Oracle, PeopleSoft and SAP, collectively known to industry insiders as "BOPS". ERP software deployments are usually associated with very large companies such as those in the Fortune 500 list, but as competition drives technology forward, accounting and industry-specific business management software is entering the ERP market space.

- **Software Engineering and Project Management (2 credits)**
  This course provides a comprehensive analysis of software engineering techniques and shows how they can be applied in practical software projects, all with an object-oriented approach. This course extensively covers software process technology, system integration, requirements management, software project management, verification and validation, risk analysis, pattern based reuse, dependable systems development, distributed system engineering, and legacy systems.

- **XML and Business Applications (2 credits)**
  This module introduces XML (its structure and its applications in business), the related technologies and its use for e-business application. The topics covered include DTD, schema, messaging, client and server side XML, XSL, SOAP, XML for B2B and UBL.

- **Data warehousing & Data mining (2 credits)**
  The main objective of this module is to unfold the concepts of data warehouse, OLAP(On-Line Analytical Processing), data mining and the design process. The topics include datamart, datamining, ETL(Extract, Transfer and Loading) process structure, data transformation services and OLAP service architecture. The practical sessions will use one of the leading data warehousing software. The students will have a chance to design and create data warehouses, extract data using the query language and create reports using enterprise software. The data warehouse design process is evolutionary in nature, it requires better understanding of the design architecture and therefore the module is introduced at the later part of the programme.

- **Content Management (1 credit)**
  This module focuses on the control aspect of management, information for decision-making, source and usage of funds, aspects of performance reporting, control action, profit centres, investment centres and transfer pricing are some of the concepts covered under this module. With the progress of the Internet, more and more data are unstructured, the management of the unstructured data will also be covered.

- **Introduction to Multimedia Technologies (2 credits)**
  The objective of this course is to introduce current techniques in multimedia communications especially as applied to wireless networks. The course will introduce the basic issues in multimedia communication and networking. Topics include: multimedia information representation: text, images, audio, video, multimedia compression: text, image, audio, video, Standards for multimedia communication; transmission and protocol; circuit switched network; the internet broadband ATM network; packet video Network environment; Transport protocol -TCP/IP, TCP; UDP; RTP; wireless network-model, characteristics.

- **Object Oriented Analysis and Design using UML (2 credits)**
  This module focuses on the major techniques of the Unified Modeling Language (UML), object-oriented analysis and design notation and how these techniques can be applied to improve quality of productivity during the analysis and design of application. The topics covered include object models, analyzing the system requirements, modeling concepts provided by UML, analysis and documentation of software designs using the unified process, identification of use cases, behavioural designs, design patterns to refine analysis and design models, implementation, testable and adaptable designs.

- **Management Information System (2 credits)**
  This module focuses on the information needs of an organization management and other knowledge workers. Information systems assist managers in making intelligent decisions with the aid of information technology and other decision-making tools. In today's digital economy, information systems play a strategic role for an organization to compete and survive.

- **Communication System and Networking (2 credits)**
  In this module, the emphasis will be on developing an understanding of the underlying principles of data communication and networking. The student will learn the basic concepts and terminology of data communication and networking. Topics include communication models, network protocols, standards, LANs, WANs, the internet, intranet, networking application and network security.

Management Subjects

- **Basic Accounting (2 credits)**
  Business is all about interaction; which in turn depend greatly upon the ability to communicate and convey one's opinion. Deals are made or broken based on one's communication skills. More importantly, in today 's fast changing world, effective communication is the need of the hour. As stated, once basic accounting has covered the groundwork, financial accounting takes over. In a way, the two are sequentially related. Management accounting covers topics like ratio analysis and elements of costing.

- **Marketing Management (2 credits)**
  This subject is favoured over and above all other specializations in the field of management. It forms a wide umbrella for a plethora of subjects. This initial module is aimed at introducing this dynamic subject to the students and covers core marketing concepts, marketing mix, market-oriented strategic planning, segmentation, channel and distribution management and evaluation of channel performance.

- **Business Environment (2 credits)**
  Businesses are influenced by numerous factors; political, economic, socio-cultural and technological; surrounding the organization externally, as also the structure of the organisation, its culture and systems. Hence, a national and international backdrop (PEST analysis) and strategy forms the core of this module.

- **Production Management and Logistics (2 credits)**
  This module helps students develop concepts of various types of production systems. Concepts in Materials Management and Logistics are also touched upon. This serves to give a foundation to study enterprise solutions of IT in the programme.

- **Cyber law and Intellectual Property Rights (2 credits)**
  Running a business ethically and under the purview set up by the government is vital. This module is designed to introduce topics like Contract Act, NI Act, patents, designs, trademark, basics of Companies Act, cyber crime and cyber security. Intellectual Property Rights (IPR) means certain creations of the human mind that are given the legal aspects of a property right. This module will touch the following fields: Industrial Property, The Trademarks, Trade secret, Trade name etc and Copyrights. The focus will be on the Software IPR.

- **E-business Management (2 credits)**
  This module introduces the business process foundations and some of the opportunities and challenges that implementers of e-commerce tools will face and an overview of industry-specific applications of e-commerce solutions.

- **Quality Management (2 credits)**
  This module stresses on the increased focus on TQM, concepts regarding cost of quality, quality circles and kaizen, types of ISO and CMM standards, certification system, system-documentation, its scope along with its significance and importance. IT Service Management and ITIL (IT Infrastructure) are also covered in this module.

- **IT Human Resource Management (2 credits)**
  Human capital forms the core of any and every organisation. Hence, this module is designed to help the students develop an understanding of functions of personnel managers, role of industrial relations, personnel information, systems disciplinary process and administration with the emphasis on the IT industry.

Project

- **Project (6 credits)**
  A project has to be submitted in the form of a dissertation, which will be examined by experts nominated by the institute.

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