

**REGULATIONS FOR THE DEGREE OF  
MASTER OF SCIENCE IN  
INFORMATION TECHNOLOGY IN EDUCATION  
(MSc[ITE])**

*(See also General Regulations)*

Any publication based on work approved for a higher degree should contain a reference to the effect that the work was submitted to the University of Hong Kong for the award of the degree.

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**Ed216 Admission requirements**

To be eligible for admission to the courses leading to the degree of Master of Science in Information Technology in Education, candidates shall

- (a) comply with the General Regulations;
  - (b) hold *either* a Bachelor's degree of this University or of another University or comparable institution accepted for this purpose; *or* another qualification of equivalent standard accepted for this purpose; and
  - (c) satisfy the examiners in a qualifying examination, if required.
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**Ed217 Qualifying examination**

- (a) A qualifying examination may be set to test the candidate's formal academic ability or their ability to follow the courses of study prescribed;
  - (b) Candidates who are required to satisfy the examiners in a qualifying examination shall not be permitted to register until they have satisfied the examiners in the examination.
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**Ed218 Award of degree**

To be eligible for the award of the degree of Master of Science in Information Technology in Education, candidates shall

- (a) comply with the General Regulations; and
  - (b) complete the curriculum and satisfy the examiners in accordance with the regulations set out below.
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**Ed219 Length of curriculum**

The curriculum shall extend over two to four academic years of part-time study, with a minimum of 300 hours of prescribed work.

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**Ed220 Completion of curriculum**

To complete the curriculum, candidates shall

- (a) follow instructions on the syllabuses prescribed and complete all specified work as required;
- (b) satisfy the examiners in all forms of assessment as may be required;
- (c) complete and present a satisfactory dissertation/project on an approved subject; and
- (d) satisfy the examiners in an oral examination if required.

Candidates who have failed to complete the curriculum and satisfy the examiners in accordance with this set of regulations within four consecutive years may be recommended for discontinuation of studies under the provisions of General Regulation G12.

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**Ed221 Dissertation/Project**

- (a) Candidates who have satisfied the examiners in at least 8 taught modules are eligible to register for the dissertation/project modules, and the title of the dissertation/project shall be submitted for approval not later than 6 months before the formal submission of the dissertation/project;
  - (b) Candidates shall submit a statement that the dissertation/project represents their own work undertaken after registration as a candidate for the degree;
  - (c) The examiners may also prescribe an oral examination on the subject of the dissertation/project.
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**Ed222 Examinations**

- (a) An assessment of the candidates' performance during the years of study may include written assignments, tests, laboratory and practical work as prescribed by the course;
  - (b) Candidates who have failed to satisfy the examiners in any part of the examinations at the first attempt may be permitted to present themselves again for examination as determined by the Board of Examiners;
  - (c) Candidates who have presented a dissertation/project which has failed to satisfy the examiners at the first attempt may be permitted to re-present the dissertation/project within a period of not more than 12 months after it is deemed unsatisfactory.
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**Ed223 Examination results**

At the conclusion of the examinations, and after the presentation of the dissertations/projects, the results will be published. Candidates who have shown exceptional merit may be awarded a mark of distinction, and this mark shall be recorded in the candidates' degree certificate.

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**Ed224 Discontinuation**

- (a) Candidates who have passed in less than 8 modules in a 24 month period from first registration; or
- (b) Candidates who have failed to satisfy the examiners upon the re-examination of a module or re-presentation of a dissertation/project

may be recommended for discontinuation of studies under the provisions of General Regulation G12.

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**Ed225 Advanced standing**

- (a) Advanced standing shall normally be granted to candidates who have successfully completed one or more modules in the Postgraduate Certificate in Advanced Educational Studies (PCAdvEdStud) programme of this University.
- (b) Credit of up to the equivalent of six modules may be granted by the Board of the Faculty of Education subject to the following conditions:
  - (i) the modules are appropriate for the specialization applied for; and
  - (ii) the application for credit is received within five years of successful completion of the relevant modules or graduation from the Postgraduate Certificate in Advanced Educational Studies whichever is later.

- (c) Application for advanced standing shall be made at the same time of application for admissions to the MSc(ITE) programme, and should be accompanied by copies of academic transcripts to support the application.

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## **SYLLABUSES FOR THE DEGREE OF MASTER OF SCIENCE IN INFORMATION TECHNOLOGY IN EDUCATION**

The programme will take the form of modules. Candidates are required to complete a total of 16 modules. The programme consists of core modules, elective modules and a dissertation or a project. For students who opt to undertake a dissertation, the breakdown of the 16 modules will be: 5 core modules; 6 elective modules; and 5 dissertation modules. For students who opt to undertake a project, the breakdown will be: 5 core modules, 8 elective modules and a project equivalent to 3 modules.

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### **MITE6000. CORE MODULES**

Candidates are required to complete 5 core modules:

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#### **MITE6003. Information technology and educational leadership** (1 module)

The aim of this module is to provide students with the necessary knowledge and working methods to be able to implement local ICT policies and strategies at institutional level. In order to achieve this aim the module provides a comparative perspective for benchmarking Hong Kong practices with examples of good working practice both locally and internationally. It also relates teaching and learning with ICT to incidental learning out-of-school and to the framework in which ICT content and technologies for learning are provided in the private and public sectors.

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#### **MITE6004. Teaching and learning with information technology** (2 modules)

This double module aims to provide a comprehensive introduction to the various uses of computer supported environments (CSE) for teaching and learning, including traditional CAL applications, cognitive tools as well as collaborative tools involving the use of various modes of computer mediated communications. This module highlights the theories of learning that underpins the design of different CSE and the social and educational contexts within which these are intended to be used. Issues related to implementation and evaluation of CSE will also be examined.

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#### **MITE6005. Research methods I** (1 module)

This module introduces methods of educational enquiry and covers the fundamentals of research methods and design with particular emphasis on critical exploration and investigation in ICT-related research. Special focus will be given to quantitative approaches to educational enquiry.

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#### **MITE6006. Research methods II** (1 module)

This module follows on from Research methods I to examine further methodological issues related to research design and introduces qualitative approaches to educational enquiry. Research design and methods related to ICT implementations in classroom or institutional contexts will be examined.

**MITE6200. ELECTIVE MODULES**

Candidates are required to complete 6 or 8 elective modules from a list to be determined yearly. The list may contain relevant modules offered by other master programmes within the University. The list of elective modules offered by the programme include:

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**MITE6201. Curriculum reform and information technology (1 module)**

This module examines the issues of curriculum reform through information technology integration in schools. Discussion on curriculum development, leadership, school change and reform initiatives, action research and other school-based inquiry strategies will be included.

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**MITE6204. Educational programming (1 module)**

This module focuses on communicating with computers and humans through programs, using a graphic language to formalize the concepts behind software structure and a current popular implementation language such as Java / C++ to construct representative applications.

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**MITE6205. Hypermedia and multimedia in education (1 module)**

The aim of this module is to provide students with the necessary knowledge and working methods to be able to source, select, use, adapt and evaluate the use of selected hypermedia and multimedia in education. As the evaluation of learning outcomes is intimately linked to the objectives and learning theories underpinning the curriculum, the module will focus on classroom management issues and the realities of evaluating ICT use.

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**MITE6206. Multimedia case studies (1 module)**

This is a more specialized research methods module where the focus is on the use of multimedia to extend the usefulness, the immediacy and the power of case studies. The module will explore how multimedia methods can break the grip of printed text in the presentation of research as well as shift the relationship between author and reader, due to their capacity for high speed searching of databases and their potential for interactivity.

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**MITE6207. Knowledge management (1 module)**

This module will explore the phenomenon of the knowledge movement, focusing on a strategic, nonlinear and systemic view of knowledge management - its rationale, concepts and application to schools. Emphasis is placed on recognition of knowledge management as a valuable strategic resource for 21st century management which has the potential to heighten the role of the teacher as information professional within the school education sector.

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**MITE6209. Educational web-publishing: design and creation (1 module)**

This module aims to broaden educators' understanding of the current state of electronic publishing development, and the complexities of electronic publishing which confront them when they and their students use Web publications for their teaching and learning. Electronic publishing will be explored from the perspectives of the author and the reader. Issues related to the community-wide problems generated by the transient nature and copyright uncertainty of electronic publications will also be discussed.

**MITE6210. Resource description framework, internet metadata and search engines** (2 modules)

This double module covers the range of Internet technologies specifically dealing with the effective publication and retrieval of documents and resources on the Internet, e.g. Resource description framework, XML, metadata, Dublin Core and search engines. It explores the use of search engines and their effectiveness on the Internet and also covers in detail the emerging area of metadata and the new communities and technologies being deployed and developed to support Internet metadata, with particular attention to education related applications.

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**MITE6211. Designing shared virtual environments for learning** (2 modules)

This double module provides an introduction to current leading-edge work on shared virtual environments for learning (SVEL) through a variety of reflective experiences in such environments. The module will delineate and interrelate various theories underlying the pedagogy and content of SVEL, discuss and utilize exemplary instructional design strategies for their development, describe and illustrate appropriate strategies for their evaluation.

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**MITE6213. Information retrieval systems: usage and evaluation** (1 module)

This module focuses on end-users' perspectives of information retrieval. It examines end-users' information needs and their search behaviour with various information retrieval systems as well as user interfaces and user education. The module also introduces the summative and formative approaches of evaluating information retrieval systems. The information retrieval knowledge and skills acquired from the module will enhance students' abilities to find information sources for their dissertations, final projects, or papers.

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**MITE6214. Digital culture and educational practice** (1 module)

This module explores the impact of the digital technologies on society, the community and the individual. It examines ways ICT have affected global and local communities and cultures, home, leisure, work and educational practices as well as our understandings of ourselves. Issues related to the evolution and impact of cyber-communities on adolescents and traditional educational communities will also be examined.

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**MITE6215. Modeling and simulations in education** (1 module)

This module introduces the use of modeling and simulations for teaching and learning. In addition to exploring different types of simulation and modeling tools, the module will examine different pedagogical strategies in using them.

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**MITE6216. The information literate school** (1 module)

This module examines the concept of the information literate school. Key literature in the field will be examined as will the related work on school reform. Attention will be paid to key concepts such as: invention, fluency, support, navigation, searching, selection, questioning, planning, interpretation, deep thinking and commitment. Special attention will be paid to the principals' enabling role.

**MITE6217. Issues in information policy and education** (1 module)

This module examines the economic, political, ethical and technological issues concerning information policy in the education and library and information science contexts. It includes coverage of intellectual property rights and copyright, freedom of and access to information, professional information and education association policies, and information sources and services available to meet educational information needs.

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**MITE6218. Psychological issues in the teaching and learning of computing** (1 module)

Computing is generally regarded as a cognitively demanding task. In programming as well as in the use of general application software, there is always a certain demand on conceptual understanding, logical reasoning, heuristic thinking and self-monitoring. This course will help to explore the psychological process of computing and its learning. It will review psychological studies on the learning of computing, so as to provide some conceptual tools for analyzing and improving instruction about computing concepts and skills. Participants of the course must have some basic knowledge in computing, including programming and other usage of general application software, and preferably some experience in the teaching of computing.

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**MITE6219. Managing information technology for school development** (2 modules)

This double module is designed for practitioners who take part in coordinating and managing information technology in schools. The module will discuss technical as well as organizational issues of information technology management in schools. Topics include the planning, organizing, leading and controlling the integration of information technology into school practices. This module will also explore theoretical and practical issues in change management and school development for technology integration.

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**MITE6220. Research in action for educational change** (1 module)

This module provides students with an opportunity to conduct collaborative research in their own workplace. This module examines issues in relation to information technology adoption in education and explores concerns related to ethics and conducting research in education. It builds on the Research Methods modules, introduces concepts of Action Research and provides students with a small-scale project-oriented opportunity to conduct research in ICT use in their work environments. Students in groups will be required to formulate research questions, develop a research design, collect and analyze data and write up their findings in the form of a collaborative research report.

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**MITE6221. Staff development and school change in the information age** (1 module)

This module introduces the skills and strategies in promoting an ICT culture at school, the implementation of a staff development plan and the provision of internal and external ICT support in the school context. The module explores theoretical and practical issues in teacher professional development and school development for technology integration. Topics include the concept of staff development, models of teacher professional development in information technology, changing staff culture and school development planning.

**MITE6222. Innovative practices in education through information technology adoption**  
(1 module)

This module examines innovative practices in education through the integration of information technology. The module investigates in detail case studies collected from around the world to examine concepts and models of what constitutes innovative practice in a variety of educational settings. The module explores the proposition that technology can act as a lever for innovation and change in education.

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**MITE6223. e-Learning strategies and management** (2 modules)

This double module investigates the expansion and applications of e-learning through Computer Mediated Communications (CMC). The module will develop knowledge and skills in producing virtual learning environments for schools and organizations. Dimensions of e-learning will be explored from K-adult, distance learning, web-based training, constructivist and flexible approaches to learning at educational institutions, at home and in the workplace. Topics will include a focus on delivery systems, content management, standards, assessment and evaluation of e-learning, for example, the shareable content object reference model (SCORM), the learning management system (LMS), the learning content management system (LCMS), and reusable learning objects.

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**MITE6224. Computer programming for problem-based learning** (1 module)

This module investigates models for teaching and learning that focus on problem based learning (PBL) in relation to various issues of programming systems. Programming applications such as simulation, robotics, data-logging and e-laboratories, that engage learners with authentic real-world projects and real-life connections between the learners and the world they live in will be explored.

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**MITE6225. Educational web-publishing** (2 modules)

This module introduces the theoretical and technical knowledge in the production of web-based educational material. Special attention will be given to the development of educational web-based applications that interface with databases. Educational web development issues such as educational web design and creation, web security and accessibility, user interface design, data modeling, database design and management, data definition and manipulation language, and connection databases to web-based applications will be addressed.

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**MITE6226. Library and information science foundation** (2 modules)

This module introduces the history, the complex development and the potential of information sciences (libraries, museums, archives and related disciplines). The applications for information and the role of library and information professionals are explored with an emphasis on the information professional as an educator.

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**MITE6227. Collection management** (1 module)

This module examines the methods used to build library collections in a variety of media in all types of libraries with an emphasis on the selection process and the relationship to stakeholders' information needs. Relationships between libraries and the publishing industry are discussed. Policy development is explored, linking collection policies to broader information policy issues such as designing digital and virtual libraries, building collaborative teaching resource databases of learning objects, and records management in electronic information environments.

**MITE6228. Organising information** (2 modules)

This module introduces the theory and applications of information organization. Approaches to describing and representing information in a variety of formats are covered as well as the evolution of standards to include electronic formats and Internet resources. The module explores learning objects, their description and issues of access in educational institutions. The principle of access to information is discussed in the relationship between information organization and retrieval.

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**MITE6229. Information retrieval theory and practice** (2 modules)

This module examines the information retrieval process from a theoretical and practical framework focusing on conceptual issues. The effective provision of access to information will be covered in the context of database structure and interface design, language issues, database selection, evaluation of search results, search strategies, information seeking behaviour and needs. Strategic searching, competitive intelligence and selected online systems are also explored.

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**MITE6230. Metadata and networked information resources** (1 module)

This module introduces approaches to digital information environments and distributed information discovery. The need for standards in description, such as the Dublin Core Metadata Initiative (DCMI), the representation of data as well as the tools for text encoding are discussed in the context of hypermedia architectures, search engines and the Web. The application of metadata to learning objects is also explored. Readings and lab activities will be used to analyze and evaluate metadata schemes and theoretical issues.

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**MITE6231. Knowledge management tools and techniques** (1 module)

This module provides an overview of techniques and tools for building a knowledge sharing culture in organizations and schools. Recent trends in the technology applied to managing knowledge (storage, access, distribution and sharing) are explored in, for example, groupware and intranets environments.

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**MITE6800/MITE6900. DISSERTATION/PROJECT** (5 modules/3 modules)

Candidates are required to complete a dissertation/project on an approved topic arising from the field of study. Candidates are also required to present a dissertation/project seminar.

The dissertation/project is an approved independent research/development project carried out under the supervision of one or more staff members. While the dissertation/project is not necessarily a piece of original research, in all cases it should include an empirical element. The dissertation/project should provide a thorough and critical analysis of the topic undertaken by the student. Each candidate shall submit the title of the dissertation/project and present the completed dissertation/project by dates specified by the Board of Examiners.