THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING

MASTER OF SCIENCE
IN
KNOWLEDGE MANAGEMENT

MODE OF STUDY : FULL- TIME / PART-TIME

PROGRAMME CODE: 45093

DEFINITIVE PROGRAMME DOCUMENT

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CONTENTS

This Definitive Programme Document is subject to review and changes which the programme offering Faculty/Department can decide to make from time to time. Students will be informed of the changes as and when appropriate.

Section 1 -Introduction

1.1 Background

1.1.1 The programme is hosted by the Department of Industrial and Systems Engineering (ISE) with collaboration from other departments. The subjects offered in the programme can be selected by students in other master programmes as electives to broaden their knowledge. ISE has already developed the strength and expertises that enables it to put forward this pioneer and multi-disciplinary programme. The Department is also collaborating with a pool of international experts to jointly develop the curriculum. Each subject will have a coordinator who will be a full-time staff member of the Department and will be responsible for the subject's quality assurance.

1.2 Industrial Relevance of Knowledge Management

1.2.1 Knowledge Management (KM) encapsulates processes and techniques for the creation, collection, indexing, organisation, distribution, and evaluation of institutional knowledge for re-use. KM in its wider interpretation, encompasses key theories and techniques from many diversified areas such as information retrieval, business systems, and enterprise engineering, organisational learning, change and innovation management.

1.2.2 Hong Kong is continuing its transformation from an industrial and production-based society to one that is a knowledge-based in which the systematic deployment of knowledge is crucial to the competitiveness of Hong Kong's companies and organisations. The traditional focus of the business landscape being focused mainly on cost structure and operational efficiency has changed to the building of capabilities for faster learning and innovation so as to increase the agility and responsiveness of enterprises to this rapid changing environment. Under such a highly competitive environment, the value-added provided by an organisation is often measured by the knowledge that it can provide, the time required to generate/locate this knowledge, and the quality of any subsequent decisions made as a consequence. The applications of KM for managing an enterprise's intellectual assets are becoming increasingly important to their competitiveness and market value. The creation, classification, storage, sharing, and reuse of institutional knowledge have become not only an area of active academic research but also of growing concerns in knowledge intensive companies and organisations.

1.2.3 Effective and efficient operations in running an enterprise require automation and embedded intelligence in common business processes. Reinforcing this view is the increasing shift of the focus of KM from the codification approach (i.e. by the use of a search engine) which occurred

during the mid to late 90s, to a process-based approach (e.g. “baking” knowledge into processes, capturing, and sharing knowledge in communities) from 2000 onwards. KM, is a newly developed field at the intersection of information science and management, and deals with knowledge as a key resource in modern organisations. The emerging KM discipline covers the complete route from knowledge analysis and audit, the design and implementation of knowledge-intensive information systems to the enhancement of organisational learning. The success of KM relies largely on in-depth research in KM and the availability of well trained KM professionals that have a strong appreciation of the prevalent issues in KM and an in depth understanding of the relevance and role of each of the above-mentioned areas in any KM initiatives and deployment.

1.3 Uniqueness of the Programme

1.3.1 Prior to this programme being launched, there was no full degree programme available in Hong Kong that is in KM. Only individual subjects related to KM are offered by some other tertiary institutions. This MSc in KM is unique and among the first of its kind in the Asia Pacific region especially for its multi-disciplinary nature and in the use of blended learning.

1.3.2 In the light of the lack of KM professionals in Hong Kong and the Asia Pacific region, the proposed new programme is designed to address this need. It is distinctly unique as its main objectives are to provide the necessary professional training to students to acquire and develop expertise the rapidly growing area of KM.

1.3.3 One of the unique features of the proposed programme is that the curriculum is co-developed by an international team of leading experts in KM and staff from the University. The programme provides a solid foundation on the fundamentals of KM and enables students with different backgrounds (e.g. IT based or management based) to specialise in areas of their specialism.

Section 2 - Programme Aims and Intended Learning Outcomes

2.1 University Mission

The design of this programme begins with the Mission Statement for the University stated below:

(i) To nurture graduates who are critical thinkers, effective communicators, innovative problem solvers, lifelong learners and ethical leaders.

(ii) To advance knowledge and the frontiers of technology to meet the changing needs of society.

(iii) To support a University community in which all members can excel through education and scholarship.

2.2 Rationale and Programme Aims

2.2.1 The programme of study is designed to:

(i) develop areas of study relevant to the student's current profession or a profession he/she intends to engage in, and to continue update a student's knowledge in a particular discipline;

(ii) develop areas of study new to the student or in areas not directly related to the scope of the student's first degree;

(iii) provide an analytical in-depth study of an area already introduced at the undergraduate level;

(iv) synthesise and integrate a number of disciplines or subjects;

(v) develop applied studies or to extend an area of study which cannot be pursued adequately at the undergraduate level.

2.2.2 The aims of the programme are to:

- provide a balanced approach and treatment of the discipline that is relevant to the changing needs of the society;
- provide students an in-depth understanding of the tools and methods in the design and implementation of a KM programme in a typical organisation;
- enable students to be familiar with the latest development and prevalent issues in KM.
- enable students to be familiar with the professional ethics relevant to KM

2.2.3 The programme is suitable for graduates from various disciplines (engineering, information technology, social work, library science, health care, management, etc.) and KM professionals

to update their knowledge in the area, as well as people working in information technology, human resource management, technology management, project management, etc. so that they can learn how to apply KM in their working environment.

2.2.4 To cater for students looking for breadth and depth of how KM is relevant to a knowledge-based society, the curriculum spans all the key topics in KM from a business, IT, learning, and information services perspectives. The programme also maintains a balanced treatment of theories and practice. This is being achieved in three ways. Firstly, an international panel of experts is involved in the programme. These experts provide, on an ongoing basis, valuable advice on the composition of subjects in the programme as well as the content of individual subjects. These experts also act as online facilitators for specific subjects during programme delivery. Secondly, dominant KM software will be used for demonstrations and hands-on sessions whenever appropriate. Thirdly, numerous case studies and mini-scenarios, both local and international ones, have been included in various subjects.

2.2.5 Upon graduation from this programme, students will be competent in all major KM concepts, theories and frameworks. They should be able to assess an organisation's readiness for KM, identify strengths, weaknesses and gaps (between strategies and objectives), prioritise various KM initiatives, plan a roadmap for deployment, execute the plan, and monitor the deployment for reporting and improvement purposes. They should develop a life-long learning capability so that they can continuously update themselves with new knowledge and implement new practices in KM. In addition, they should familiarise themselves with professional ethics in the KM field so as to avoid the misuse of technology when performing information gathering and sharing.

2.3 Relationship between University Mission and the Programme Aims

		University Mission elements		
		i	**ii**	**iii**
Programme Overall Aims	**1**	X	X	
	2			X
	3	X	X	
	4	X		

2.4 Institutional Learning Outcomes

2.4.1 The following learning outcomes are to be broadly applicable to all taught postgraduate programmes:

1. Professional competence of specialists/leaders of a discipline/profession: Graduates of PolyU taught postgraduate programmes will possess in-depth knowledge and skills in their area of study and be able to apply their knowledge and contribute to professional leadership.

2. Strategic thinking: Graduates of PolyU taught postgraduate programmes will be able to think holistically and analytically in dealing with complex problems and situations pertinent to their professional practice. They will be versatile problem solvers with good mastery of critical and creative thinking skills, who can generate practical and innovative solutions.

3. Lifelong learning capability: Graduates of PolyU taught postgraduate programmes will have an enhanced capability for continual professional development through inquiry and reflection on professional practice.

2.5 Intended Learning Outcomes (ILOs) of the Programme

2.5.1 The programme provides a flexible and unique opportunity for participants in different disciplines to acquire and apply Knowledge Management skills and tools to address their professional and organizational needs. In general, the learning outcomes for the graduates of MSc/PgD in Knowledge Management are:

1. Professional Knowledge: Graduates will possess in-depth knowledge, skills and practice in technology based and people based knowledge management. They will be able to identify, justify, plan and lead projects in the above areas in organizations, as well measure the success and impact of knowledge management projects and programmes.

2. Critical and creative thinking: Graduates can operate holistically and/or strategically in dealing with issues related to the effective introduction and sustainment of managing knowledge and innovations in organizations. They will be versatile problem solvers and creative thinkers with good mastery of skills especially on tackling people and cultural issues.

3. Life-long learning capability: Graduates will be able to learn how to learn and develop their reflective skills in becoming effective learners in the field.

2.6 **Relationship between Institutional Learning Outcomes and Intended Learning Outcomes (ILOs) of the Programme**

		Institutional Learning Outcomes		
		1	**2**	**3**
Intended Learning Outcomes of the Programme	**1**	X		
	2		X	
	3			X

2.7 **Relationship between Aims and Intended Learning Outcomes (ILOs) of the Programme**

		Programme Aims			
		1	**2**	**3**	**4**
Intended Learning Outcomes	**1**	X	X	X	X
	2		X	X	
	3	X	X	X	X

2.8 Curriculum Map that We Teach (T), Give Students Practice (P) and Measure (M) the Intended Learning Outcomes (ILOs) of the Programme

SUBJECT CODES	SUBJECT TITLES	PROGRAMME OUTCOMES		
		1	2	3
	COMPULSORY			
ISE542	Managing Knowledge	TPM	TPM	TPM
ISE543	Methods and Tools for Knowledge Management Systems	TP	TP	TPM
ISE5600	Organisational Learning: Methods and Practices	TP	TP	TPM
ISE5601	Managing and Measuring Intellectual Capital	TPM	TPM	T
ISE5604	Strategic Issues and Case Studies in Knowledge Management	TPM	PM	TM
	CORE			
ISE549	Management of Innovation and Technology	TPM	T	TP
ISE5024	Knowledge Based Service Innovation	TPM	PM	P
ISE5603	Enterprise Knowledge Portals	TP	TP	TM
ISE5605	Knowledge Communities	TP	PM	TM
ISE5606	Business Intelligence and Data Mining	TP	PM	P
ISE5607	E-Learning Technologies and Practices	TPM	T	TP
	ELECTIVE			
ISE518	Workflow Design and Management	TPM	TPM	P
ISE520	Manufacturing Strategy	TPM	T	TP
ISE526	Enterprise Resource Planning	TP	P	P
ISE553	Managing Six Sigma		TP	
ISE5018	Intellectual Property Management and Strategies	TPM	TPM	T
ISE5025	Knowledge Management Practices in Small and Medium-sized Enterprises	TPM	TP	P
ISE5699	Dissertation	TP	TP	P
MM511	Managing Organizations and People	TMP	PM	
MM521	Leading Change	TPM	TP	P

2.9 Feedback Process

The Postgraduate Programme Committee and the Programme Leader are the elements of a feedback system in programme management. Their responsibilities include examining the information received from the stakeholders, modifying the plan as appropriate, using appropriate measurement data to evaluate the programme outcomes as the process is implemented, and suggesting changes in the subject content, the extracurricular content or any other revisions needed to improve the programme when its performance falls short of the benchmarks.

Section 3 - Admission and Entrance Requirements

3.1 Admission

3.1.1 Applicants may apply for admission to the programme studying for the award of Master of Science. The maximum period of registration for full-time and part-time students are four years respectively from the date of first registration and application for extension will only be approved under exceptional circumstances.

3.2 Minimum Entrance Requirements

3.2.1 Entry qualifications are a bachelor's degree or a professional qualification, or equivalent. Consideration will be given to candidates with appropriate working experience.

3.3 English Language Requirement

3.3.1 If applicants are not native speakers of English, and their Bachelor's degree or equivalent qualification is awarded by institutions where the medium of instruction is not English, applicants are expected to fulfill the following minimum English language requirement for admission purpose:

- A Test of English as a Foreign Language (TOEFL) score of 80 or above for the Internet-based test; or a TOEFL score of 550 or above for the paper-based test;
  OR
- An overall Band Score of at least 6 in the International English Language Testing System (IELTS).

3.4 Selection Procedure

3.4.1 The Programme Leader and Admission Officer are responsible for admission and the admission procedures. Interviews may be administered for the selection of students to the programme. Applicants will be selected on the basis of their qualifications, work experience and the programme's relevance to their employment. Preference may be given to industry sponsored candidates.

3.5 Frequency of Admission and Registration

3.5.1 Students will be admitted into the programme on an annual basis into Semester 1 of the academic year. Admission into Semester 2 is however possible on a top-up basis. Subject registration will therefore be available in both semesters.

Section 4 - Curriculum Structure

4.1 Programme Design

4.1.1 The programme is offered in a blended face-to-face and online mode. Subjects are mainly delivered via face-to-face lectures. Students are able to communicate with their peer groups and subject leaders in classes, using a web-based discussion forum, emails, among other means. The programme will be supported by tutorials (via the Online Tutorial System), seminars, workshops and presentations. The use of this blended mode of teaching is expected to enhance students' learning experience.

4.1.2 The principle underlying the programme structure is to provide students with both a solid foundation in the latest theory, practice, and development of KM. Flexibility is also provided for students with different backgrounds (e.g. IT or management) to choose electives in other areas they would like to specialise in. The programme consists of three categories of subjects: (A) **Compulsory Subjects,** (B) **Core Subjects**, and (C) **Elective Subjects.** Subjects are offered in the blended learning mode or via the conventional face-to-face teaching mode. Tables 4.1 to 4.3 list the programme's subjects.

Table 4.1 Compulsory Subjects which are fundamental to KM

ISE542	Managing Knowledge
ISE543	Methods and Tools for Knowledge Management Systems
ISE5600	Organisational Learning: Methods and Practices
ISE5601	Managing and Measuring Intellectual Capital
ISE5604	Strategic Issues and Case Studies in Knowledge Management

Table 4. 2 Core Subjects which allow students to specialise in various areas in KM

ISE549	Management of Innovation and Technology
ISE5024	Knowledge Based Service Innovation
ISE5603	Enterprise Knowledge Portals
ISE5605	Knowledge Communities
ISE5606	Business Intelligence and Data Mining
ISE5607	E-Learning Technologies and Practices

Table 4. 3 Elective Subjects often enable students to focus on specific sectors of industry

	(The following is the list of approved elective subjects for the programme.)
ISE518	Workflow Design and Management
ISE520	Manufacturing Strategy
ISE526	Enterprise Resource Planning
ISE553	Managing Six Sigma
ISE5018	Intellectual Property Management and Strategies
ISE5025	Knowledge Management Practices in Small and Medium-sized Enterprises
MM511	Managing Organizations and People
MM521	Leading Change

4.1.3 The programme has been carefully designed to provide a holistic treatment of major KM concepts and principles commonly known to academics and practitioners. This is achieved by careful planning of the compulsory and elective subjects as well as the rules that govern the taking of these subjects. Special emphasis has also been placed on the characteristics, requirements, and trading environment in the local industry. In particular, a subject named "Strategic Issues and Case Studies in Knowledge Management" is designed to provide additional topics that cross over multiple sub-fields in KM.

4.2 **Compulsory Subjects**

4.2.1 The subject *Managing Knowledge (ISE542)* is the first programme subject that aims to students introduce the foundations of KM to students. It is designed to provide students with an insight and introductory working knowledge to allow them to effectively apply KM in organizations, achieve their objectives, and lead and promulgate KM efforts for business effectiveness and success. The purpose is to equip students with practitioner understanding and proficiency to initiate, assess, operate, disseminate, and manage KM practices, projects, programs, and other KM efforts with an enterprise.

4.2.2 *Methods and Tools for Knowledge Management Systems (ISE543)* provides students an overall understanding of the major issues related to the role, alignment, and deployment of Knowledge Management Systems (KMS) in organizations. Techniques for organizing and searching knowledge, and assessment of technical infrastructure are also discussed. Students are expected to gain a holistic and in-depth understanding of many KM-related technologies and their evolution, as well as be able to relate and assess its suitability for their own organizations.

4.2.3 *Organisational Learning: Methods and Practices (ISE5600)* provides students with an understanding of the evolution of organizational learning; an appreciation to identify the characteristics and limitations of learning organizations; a working knowledge of various tools in team learning, such as action science, systems thinking, scenario planning, and storytelling; and an understanding of the barriers involved in organizational learning.

4.2.4 *Managing and Measuring Intellectual Capital (ISE5601)* provides students with working knowledge of different elements of intellectual capital and the deriving values from intellectual capital; theory and practice for the strategic management of intellectual capital and its implementation life cycle; and understanding of different approaches for measuring and reporting value of intellectual capital.

4.2.5 *Strategic Issues and Case Studies in Knowledge Management (ISE5604)* aims to familiarize the students with advanced topics and research findings from knowledge management (KM) literature and experiences from implementation. It also aims to equip students with a general management and strategic know-how of designing, deploying, and managing the implementation of knowledge-based strategies using qualitative tools, narratives, soft system methodologies, and case methods/action learning, among others. Selective topics e.g. Artificial Intelligence, Innovations, KM in Social Services and KM standards are also covered.

4.3 **Core Subjects**

4.3.1 *Knowledge Based Service Innovation (ISE5024)* provides students with an overall understanding of the fundamental ways by which a firm's knowledge-based organizational capabilities enable service innovation and how these capabilities must be configurable and aligned with the enterprise strategy for superior value co-creation with the customers; a holistic and in-depth understanding of prevailing practical methods for developing and aligning the service innovation models, processes and operations with both the espoused enterprise strategy and customer value proposition to achieve sustainable competitive advantage; and to relate and assess the suitability of the strategy-aligned service innovation concepts, models and methods for their own organizations.

4.3.2 *Management of Innovation and Technology (ISE549)* enables students to explore, understand, and practice innovation and technology as corporate resources that determine both the strategic and the operational capabilities of firms in designing and developing products and services for maximum customer satisfaction and corporate competitiveness.

4.3.3 *Enterprise Knowledge Portals (ISE5603)* provides students with the ability to identify the role of different types of portals to support information management, process management,

collaborations, and transaction processing in the workplace, as well as in the Internet world and to develop a roadmap for the introduction of a portal, choose the necessary functions and technologies, as well as define metrics for measuring adoption by users, together with change management required to support the deployment.

4.3.4 *Knowledge Communities (ISE5605)* aims to provide students the opportunity to understand the various types and purposes of knowledge communities; to appreciate the power of knowledge communities in knowledge creation, retention, and sharing; to understand the various types of tools and technologies that support different stages of an online community; to learn about various models for assessing the maturity and value of a community; to gain in-depth appreciation of some real-world successful private and public online communities; and to learn about strategies for development, sustainment, and change management in support of online communities.

4.3.5 *Business Intelligence and Data Mining (ISE5606)* enables students to master the basics in business intelligence (BI), data mining (DM), and knowledge discovery in databases; to learn the role that software tools/applications play in BI and DM, with emphasis on industrial case studies and practical applications; and to have an overall understanding of the major issues and applications in business intelligence and data mining, including a basic grasp of the algorithm classes and best practices for building successful BI projects.

4.3.6 One of the key focuses of *E-Learning Technologies and Practices (ISE5607)* is to provide students with the knowledge to understand the prevalent models of electronic learning, development of learning strategies, and construct business cases on return on investment; to appreciate the general and niche applications of electronic learning; to explore the existing and emerging technologies and practices that underpin/impact the formulation and deployment of electronic learning and assess their implications; and to critically examine the role, strengths, and weaknesses of learning management and course delivery systems and components.

4.4 Elective Subjects

4.4.1 Elective subjects consist of a pool of subjects on managing specific activities of an enterprise such as quality assurance, resources planning, product launching, customer relationship management, technology transfer, workflow management, and performance measurement. The programme has 10 subjects that are listed as electives. These subjects cover a wide range of areas to suit the needs of individual students.

4.5 Dissertation

4.5.1 The Dissertation comprises a single piece of work. The work should be of a standard which reflects the student's ability to undertake an applied theoretical piece of research work within the professional context of KM areas. The objective of this work is to enhance the competence of students in conducting research and development relating to KM in their companies. Creative skills and innovative thinking in the application of advanced knowledge and theory learned in the programme to solve real industrial problems should be demonstrated.

4.5.2 The dissertation carries a weight equivalent to 9 credits or three taught subjects. It represents around 420 hours of student effort. Students will continue with their jobs while they work on their dissertations. The subject of the dissertation will preferably be related to the students' employment. The normal period for completion of a dissertation is 3 semesters. Students who are not able to complete their dissertations with the normal period may apply on the advice of the supervisor to extend the dissertation registration beyond the normal period but within the maximum period of 4 semesters. For students not taking the *Dissertation (ISE5699)*, the compulsory subject in *Strategic Issues and Case Studies in Knowledge Management (ISE5604)* will require students to complete a mini-project on a topic of their choice.

4.5.3 Students registered for the MSc award will be advised to register for their Dissertation after completion of their fourth subject. However, they will not be allowed to register if they have achieved a GPA of less than 2.5.

4.5.4 Students usually continue with their jobs while they work on their dissertations, the subject of the dissertation is preferably related to the student's own work and ideas. Where others have had an input (e.g. in a team situation) this should be clearly identified. Since the subject areas of dissertations are so diverse it is impossible to define a standard approach to content, but included, should be an introduction and definition of objectives, a literature survey, a review of the problem followed by a description of the student's approach to solving the problem, the results or findings, and intellectual analysis of the results or findings, and finally a logical review of the conclusions drawn.

4.5.5 Students are encouraged to initiate dissertation topics relating to their employment. However, students may take up campus based dissertations in cases of difficulty. A seminar will be given to the students to assist them writing a dissertation proposal. The purpose of the dissertation seminar is to enable students to identify and define a problem for valid research, to develop their abilities to identify and evaluate appropriate research methods, and to provide a framework from which students can begin their own research work. The content of some of the seminars will include research methods, research design, analysis of data presentation of findings, and the ethical and legal considerations. Staff members active in research will participate and interact with students in answering questions and leading discussion on major issues. Subsequent to the dissertation seminar, the student will prepare a dissertation proposal in a standard format using a synopsis form. Students are expected to submit their dissertation proposal to the Dissertation Coordinator for approval.

4.5.6 Under normal circumstances, and with the agreement of the supervisor(s), students may prepare for assessment after satisfactory progress. FOUR unbound copies of the dissertation shall be submitted, together with the Dissertation Submission Form to the academic supervisor and one copy shall be kept by the student one month prior to the end of the semester. After submission of the unbound copies of the dissertation the academic supervisor shall make arrangements with the assistance of the department on a mutually convenient time and place for an oral exam at which the other assessors will be presented. The assessment panel will consist of three categories of member, namely, the supervisors (academic, professional and co-supervisor if relevant), a second assessor who is a subject expert from the department, from another department in the University, or from industry, to be nominated by the academic supervisor and approved by the Dissertation Coordinator where approval authority has been delegated; and a moderator appointed by the Chairman or the Coordinator to provide quality control.

4.5.7 The amount of effort required by students in the dissertation should clearly be reflected in the quantity and quality of the final submission. In assessing the standard of dissertations supervisors will be seeking to ensure that the student has met with the aims of this part of the programme. The student and academic supervisor should contact each other from time to time to discuss progress against his agreed programme. The responsibility for arranging meetings between student and academic supervisor is shared by both parties. The academic supervisor will provide guidance to complement that available within the student's employing organisation and advise the student about the style of presentation of the dissertation. Academic and professional supervisors will liaise as circumstances require. The academic

supervisor will be available for consultation on a regular basis both at the University and at the student's workplace according to circumstances. The role of the professional supervisor is to be able to assess the student's effort in the workplace and assist in the conduct of the oral examination and provide assurance that the candidate's work has been independently done. Students should approach a prospective professional supervisor and explain their requirements and should obtain his/her agreement to act as professional supervisor. If the work for the dissertation forms part of a group endeavour within the student's organization, it is essential that the student's personal contribution can be identified and that the professional supervisor can speak for the part which the student has played. In cases where no suitable professional supervisor can be found, the Committee will appoint a second academic supervisor to take the place of the professional supervisor. If the dissertation topic is based in the student's workplace, visits to the student's place of work by the academic supervisor(s) will be necessary.

Section 5 - Examination and Assessment

5.1 General Assessment Regulations (GAR)

5.1.1 The University's General Assessment Regulations shall apply to the MSc in Knowledge Management programme. The specific assessment regulations are set out here, having been developed within the framework of the GAR.

5.2 Assessment Methods

5.2.1 Students' performance in a subject can be assessed by continuous assessment and/or examinations, at the discretion of the individual subject offering Department. Where both continuous assessment and examinations are used, the weighting of each in the overall subject grade is clearly stated in Section 8 of this document. The subject offering Department can decide whether students are required to pass both the continuous assessment and examination components, or either component only, in order to obtain a subject pass, but this requirement (to pass both, or either, components) will be specified in Section 8 of this document. Learning outcome should be assessed by continuous assessment and/or examination appropriately, in line with the outcome-based approach.

5.2.2 Continuous assessment may include tests, assignments, projects, laboratory work, field exercises, presentations and other forms of classroom participation. Continuous Assessment assignments which involve group work should nevertheless include some individual components therein. The contribution made by each student in continuous assessment involving a group effort shall be determined and assessed separately, and this can result in different grades being awarded to students in the same group.

5.2.3 Assessment methods and parameters of subjects shall be determined by the subject offering Department.

5.3 Grading

5.3.1 Assessment grades shall be awarded on a criterion-referenced basis. A student's overall performance in a subject shall be graded as follows:

Subject Grade	***Grade Point***	***Short Description***	***Elaboration on subject grading description***
A+	4.5	Exceptionally Outstanding	The student's work is exceptionally outstanding. It exceeds the intended subject learning outcomes in all regards.
A	4.0	Outstanding	The student's work is outstanding. It exceeds the intended subject learning outcomes in nearly all regards.
B+	3.5	Very Good	The student's work is very good. It exceeds the intended subject learning outcomes in most regards.
B	3.0	Good	The student's work is good. It exceeds the intended subject learning outcomes in some regards.
C+	2.5	Wholly Satisfactory	The student's work is wholly satisfactory. It fully meets the intended subject learning outcomes.
C	2.0	Satisfactory	The student's work is satisfactory. It largely meets the intended subject learning outcomes.
D+	1.5	Barely Satisfactory	The student's work is barely satisfactory. It marginally meets the intended subject learning outcomes.
D	1.0	Barely Adequate	The student's work is barely adequate. It meets the intended subject learning outcomes only in some regards.
F	0	Inadequate	The student's work is inadequate. It fails to meet many of the intended subject learning outcomes.

'F' is a subject failure grade, whilst all others ('D' to 'A+') are subject passing grades. No credit will be earned if a subject is failed.

5.3.2 At the end of a semester, a Grade Point Average (GPA) will be computed as follows, and based on the grade point of all the subjects:

$$GPA = \frac{\Sigma_n \, Subject\ Grade\ Point \times Subject\ Credit\ Value}{\Sigma_n \, Subject\ Credit\ Value}$$

Where n = number of all subjects (inclusive of failed subjects) taken by the student up to and including the latest semester/term, but for subjects which have been retaken, only the grade point obtained in the final attempt will be included in the GPA calculation.

5.3.3 Exempted, ungraded and incomplete subjects, subjects for which credit transfer has been approved without any grade assigned^, and subjects from which a student has been allowed to withdraw, i.e. those with the Grade "W" will be excluded from the GPA calculation. Subjects which have been given an "S" grade code i.e. absent from an assessment, will be included in the GPA calculation and will be counted as "zero" grade point. The GPA is thus the un-weighted cumulative average calculated for a student, for all relevant subjects taken from the start of the programme to a particular point of time. GPA is an indicator of overall performance, and is capped at 4.0.

5.3.4 Subjects taken in PolyU or elsewhere and with grades assigned, and for which credit transfer has been approved, will be included in the GPA calculation.

5.4 Dissertation Assessment

5.4.1 Students are expected to submit a dissertation proposal to the Dissertation Coordinator no later than the last day of the semester in which he/she first registers for the dissertation. Staff contacts with industry, their research and consultancy work may lead to project proposals too. Dissertation proposals will be assessed for suitability by an ad hoc panel convened by the Dissertation Coordinator.

5.4.2 Students will be required to complete their dissertations normally within 3 semesters. Those who are not able to complete their dissertation may apply on the advice of the supervisor to extend the dissertation registration beyond the normal period but within the maximum of 4 semesters. The application must be recommended by the relevant Dissertation Coordinator and must be approved by the Programme Leader. Applications for extension beyond the normal period will only be approved under exceptional circumstances. Based on the AS Student Handbook, participants who are permitted to extend their dissertation beyond the normal period will have to pay extension fee.

5.4.3 The assessment panel will consist of the following members, namely:

1. the academic supervisor(s),
2. a second assessor who is a subject expert from the department, or from another department in the University, or from industry, to be nominated by the academic supervisor(s) and approved by the Dissertation Coordinator,
3. and a moderator appointed by the Programme Leader or Dissertation Coordinator to provide quality control.

5.4.4 A copy of the dissertation should be sent to each of the assessors and one copy should be kept by the student.

5.4.5 After submission of the final report, the academic supervisor should make arrangements with the assistance of the department on a mutually convenient time and place for an oral examination at which the other assessors will be present. The date set for the oral examination should allow sufficient time for the examiners to read the submission and should normally be no later than one month after submission of the dissertation.

5.4.6 After conducting the oral examination, the assessment panel will jointly allocate a grade guided by the following weightings which may vary depending on the nature of the project.

Progress 20% + Dissertation 50% + Oral 30% = Total 100%

5.4.7 A moderator appointed by the Programme Leader or Dissertation Coordinator will subsequently moderate the dissertations to ensure that proper standards are maintained and that fairness and consistency are practiced in the grades awarded.

5.4.8 Students failing their dissertations will not be allowed to re-take their dissertation subjects.

5.5 Different Types of GPA

5.5.1 GPA will be calculated for each Semester including the Summer Term. This Semester GPA will be used to determine students' eligibility to progress to the next Semester alongside with the 'cumulative GPA'. However, the Semester GPA calculated for the Summer Term will not be used for this purpose, unless the Summer Term study is mandatory for all students of the programme concerned and constitutes part of the graduation requirements.

5.5.2 The GPA calculated after the second Semester of the students' study is therefore a 'cumulative' GPA of all the subjects taken so far by students, and without applying any level weighting.

5.5.3 Along with the 'cumulative' GPA, a weighted GPA will also be calculated, to give an indication to the Board of Examiners on the award classification which a student will likely get if he makes steady progress on his/her academic studies.

5.5.4 When a student has satisfied the requirements for award, an award GPA will be calculated to determine his/her award classification.

5.6 Progression/Academic Probation/Deregistration

5.6.1 The Board of Examiners shall, at the end of each semester (except for Summer Term unless there are students who are eligible to graduate after completion of Summer Term subjects or the Summer Term study is mandatory for the programme), determine whether each student is:

(i) eligible for progression towards an award; or
(ii) eligible for an award; or
(iii) required to be de-registered from the programme.

5.6.2 When a student has a Grade Point Average (GPA) lower than 2.0, he/she will be put on academic probation in the following semester. Once when a student is able to pull his/her GPA up to 2.0 or above at the end of the semester, the status of "academic probation" will be lifted. The status of "academic probation" will be reflected in the examination result notification but not in transcript of studies.

5.6.3 A student will have 'progressing' status unless he/she falls within the following categories, either of which may be regarded as grounds for de-registration from the programme:

(i) the student has exceeded the maximum period of registration for the programme (see paragraph 6.8); or

(ii) the student's GPA is lower than 2.0 for two consecutive semesters and his/her Semester GPA in the second semester is also lower than 2.0; or

(iii) the student's GPA is lower than 2.0 for three consecutive semesters.

When a student falls within the categories as stipulated above, the Board of Examiners shall de-register the student from the programme without exception.

5.6.4 A student may be deregistered from the programme enrolled before the time frame specified in (ii) or (iii) above if his/her academic performance is poor to the extent that the Board of Examiners considers that there is not much of chance for him/her to attain a GPA of 2.0 at the end of the programme, or to recommend that students who fall into categories (ii) or (iii) be allowed to stay on the programme, and these recommendations should be presented to the relevant Faculty Board for final decision.

5.6.5 If the student is not satisfied with the de-registration decision of the Board of Examiners, he/she can lodge an appeal. All such appeal cases will be referred directly to Academic Appeals Committee (AAC) for final decision. Views of Department will be sought and made available to AAC for reference.

5.7 University Graduation Requirements

5.7.1 A student is eligible for award if he/she satisfies all the conditions listed below:

(i) Each taught subject carries 3 credits and the Dissertation carries 9 credits. To obtain the MSc degree, students must acquire a minimum of 30 credits. To obtain the PgD award, students must acquire a minimum of 18 credits at the end of the Programme.

(ii) Students must satisfy the residential requirement for at least 1/3 of the credits to be completed for the award he/she is currently enrolled in PolyU;

(iii) All requirements as defined in the definite programme document and as specified by the University are satisfied; and

(iv) Students must have a GPA of 2.0 or above at the end of the programme.

5.7.2 To be eligible for the MSc award, students shall satisfy either of the following requirements (see Fig. 5.1) and having a GPA of 2.0 or above at the end of the Programme:

1. SEVEN taught subjects, including FIVE Compulsory, at least ONE Core, and at most ONE Elective subject, plus a Dissertation

   OR

2. TEN taught subjects, including FIVE Compulsory, at least THREE Core, and at most TWO Elective subjects.

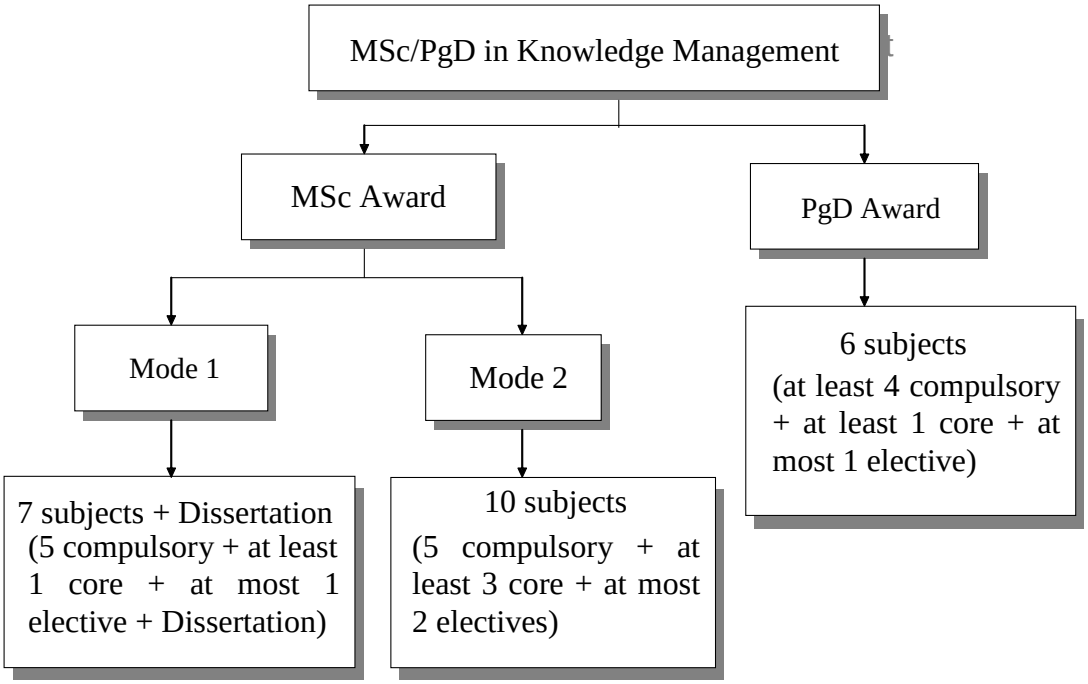

Fig. 5.1 Programme Curriculum

5.7.3 To be eligible for the award of the PgD (again see Fig. 5.1), students shall complete SIX taught subjects, including at least FOUR Compulsory, at least ONE Core, and at most ONE Elective subject and having a GPA of 2.0 or above at the end of the Programme.

5.7.4 The awards of PgD and MSc are classified as: Distinction, Credit, and Pass.

5.7.5 A student is required to graduate as soon as he/she satisfies all the conditions for award. Subject to the maximum study load of 21 credits per semester, a student may take more credits than he/she needs to graduate on top of the prescribed credit requirements for his/her award in or before the semester within which he/she becomes eligible for award.

5.8 Guidelines for Award Classification

5.8.1 To help the Board of Examiners in arriving at award classification decisions, a weighted GPA will be computed for each student upon completion of the programme. The Weighted GPA will be computed as follows:

$$\text{Weighted GPA} = \frac{\sum_n \text{Subject Grade Point} \times \text{Subject Credit Value} \times W_i}{\sum_n \text{Subject Credit Value} \times W_i}$$

where Wi = weighting to be assigned according to the level of the subject

n = number of all subjects counted in GPA calculation as set out in paragraph 5.3, except those exclusions that any subjects passed after the graduation requirement has been met will not be taken into account of in the grade point calculation for award classification.

The weighting of each level is a measure of the relevance of the level to the classification of the award. Same as GPA, weighted GPA is capped at 4.0.

5.8.2 All subjects in this programme bear the same weighting for the purpose of award classification.

5.8.3 Any subjects passed after the graduation requirement has been met or subjects taken on top of the prescribed credit requirements for award shall not be taken into account in the grade point calculation for award classification. However, if a student attempts more elective subjects (or optional subjects) than those required for graduation in or before the semester in which he becomes eligible for award, the elective subjects (or optional subjects) with a higher grade/contribution shall be included in the grade point calculation (i.e. the excessive subjects attempted with a lower grade/contribution, including failed subjects, will be excluded).

5.9 Classification of Awards

5.9.1 The following are guidelines for Board of Examiners' reference in determining award classifications:

Award	Guidelines for the awards
Distinction	The student's performance/ attainment is **outstanding**, and identifies him as **exceptionally able** in the field covered by the programme in question.
Credit	The student has reached a standard of performance which is **more than satisfactory** but **less than outstanding**.
Pass	The student has reached a standard of performance/ attainment ranging from **just adequate to just satisfactory.**

5.9.2 The following table may also be used as a reference for the Board of Examiners in determining award classifications:

Award Classification	GPA or Weighted GPA
Distinction	3.7^{+} to 4.0
Credit	3.2^{+} to 3.7^{-}
Pass	2.0^{+} to 3.2^{-}

"+" sign denotes 'equal to and more than'; "–" sign denotes 'less than'.

5.9.3 There is no requirement for Boards of Examiners to produce award lists which conform to the guidelines in above.

5.9.4 Students who have committed academic dishonesty will be subjected to the penalty of the lowering of award classification by one level. The minimum of downgraded overall result will be kept at a Pass. In rare circumstances where both the Student Discipline Committee and Board of Examiners of a Department consider that there are strong justifications showing the offence be less serious, the requirement for lowering the award classification can be waived.

5.10 **Graduation**

5.10.1 Students will be awarded a PgD without having to submit an application for graduation under the following conditions:

(i) the Board of Examiners agrees that he/she is eligible for a PgD award and cannot be eligible for the Master's award (even though the MSc was the student's intended award); or

(ii) he/she has reached the end of the normal period of dissertation registration but has not obtained approval to extend his dissertation registration period from the Programme Leader and has fulfilled the requirement for a PgD award.

5.10.2 Students should be granted an MSc award without having to submit an application for graduation under the following condition:

he/she has fulfilled all the requirements for an MSc award.

5.11 Validity of Credits

5.11.1 The validity period of credits earned is eight years from the year of attainment, i.e. the year in which the subject is completed. Credits earned from previous studies should remain valid at the time when the student applies for credit transfer.

5.12 Retaking of Subjects

5.12.1 Students may retake any subject for the purpose of improving their grade without having to seek approval, but they must retake a compulsory subject which they have failed, i.e. obtained an F grade. Retaking of subjects is with the condition that the maximum study load of 21 credits per semester is not exceeded. Students wishing to retake passed subjects will be accorded a lower priority than those who are required to retake (due to failure in a compulsory subject) and can only do so if places are available.

5.12.2 The number of retakes of a failed subject is not restricted. Only the grade obtained in the final attempt of retaking (even if the retake grade is lower than the original grade for originally passed subject) will be included in the calculation of the Grade Point Average (GPA). If students have passed a subject but failed after retake, credits accumulated for passing the subject in a previous attempt will remain valid for satisfying the credit requirement for award. (The grades obtained in previous attempts will only be reflected in transcript of studies.)

5.12.3 In cases where a student takes another subject to replace a failed elective subject, the fail grade will be taken into account in the calculation of the GPA, despite the passing of the replacement subject.

5.13 Absence from an Assessment Component

5.13.1 If a student is unable to complete all the assessment components of a subject, due to illness or other circumstances which are beyond his/her control and considered by the subject offering department as legitimate, the Department will determine whether the student will have to complete a late assessment and, if so, by what means. This late assessment shall take place at the earliest opportunity, and before the commencement of the following academic year (except that for Summer Term, which may take place within 3 weeks after the finalisation of Summer Term results). If the late assessment cannot be completed before the commencement of the following academic year, the Faculty Board Chairman shall decide on an appropriate time for completion of the late assessment.

5.13.2 The student concerned is required to submit his/her application for late assessment in writing to the Head of Department offering the subject, with five working days from the date of the examination, together with any supporting documents. Approval of applications for late

assessment and the means for such late assessments shall be given by the Head of Department offering the subject or the Subject Lecturer concerned, in consultation with the Programme Leader.

5.14 **Assessment to be completed**

5.14.1 For cases where students fail marginally in one of the components within a subject, the BoE can defer making a final decision until the students concerned have completed the necessary remedial work to the satisfaction of the subject examiner(s). The remedial work must not take the form of re-examination.

5.15 **Aegrotat Award**

5.15.1 If a student is unable to complete the requirements of the programme in question the award, due to very serious illness, or other very special circumstances which are beyond his/her control, and are considered by the Board of Examiners as legitimate, the Faculty Board will determine whether the student will be granted an aegrotat award. An aegrotat award will be granted only under very exceptional circumstances.

5.15.2 A student who has been offered an aegrotat award shall have the right to choose either to accept such an award or request to be assessed on another occasion as stipulated by the Board of Examiners, the student's exercise of this option shall be irrevocable. The acceptance of an aegrotat award by a student shall disqualify him/her from any subsequent assessment for the same award. An aegrotat award shall normally not be classified, and the award parchment shall not state that it is an aegrotat award. However, the Board of Examiners may determine whether the award should be classified provided they have adequate information on the students' academic performance.

5.16 **Other Particular Circumstances**

5.16.1 A student's particular circumstances may influence the procedures for assessment but not the standard of performance expected in assessment.

5.17 **Recording of Disciplinary Actions in Students' Records**

5.17.1 With effect from Semester One of 2015/16, disciplinary actions against students' misconducts will be recorded in students' records.

5.17.2 Students who are found guilty of academic dishonesty will be subject to the penalty of having the subject result concerned disqualified and be given a failure grade with a remark denoting 'Disqualification of result due to academic dishonesty'. The remark will be shown in the

students' record as well as the assessment result notification and transcript of studies, until their leaving the University.

5.17.3 Students who have committed disciplinary offences (covering both academic and non-academic related matters) will be put on 'disciplinary probation'. The status of 'disciplinary probation' will be shown in the students' record as well as the assessment result notification, transcript of studies and testimonial during the probation period, until their leaving the University. The disciplinary probation is normally one year unless otherwise decided by the Student Discipline Committee.

5.17.4 The University reserves the right to withhold the insurance of any certificate of study to a student who has unsettled matters with the University, or subject to disciplinary action.

Section 6 - Programme Operation and Control

6.1 Frequency of Subjects to be Offered

6.1.1 Subjects are normally offered once a year. There are however, several common subjects shared by other programmes in the PolyU which may be available in both Semester's 1 and 2. Subject to the availability of resources, the Department will attempt to offer as many subjects as possible in both semesters. In all cases, students entering the programme will be able to complete all the requirements for the award in 4 years.

6.2 Evening, Weekend and Summer Teaching

6.2.1 The subjects for this award will usually be offered in the evenings and/or weekends during Semester 1 and 2. Subject to departmental resources, teaching may be provided in summer term.

6.3 Subject Registration and Withdrawal

6.3.1 In addition to programme registration, students need to register for the subjects at specified periods prior to the commencement of the semester. Students may apply for withdrawal of their registration on a subject after the add/drop period if they have a genuine need to do so. The application should be made to the relevant programme offering department and will require the approval of both the subject lecturer and the Programme Leader concerned. Application submitted after the commencement of the examination period will not be considered. For approved applications of subject withdrawal, the tuition fee paid for the subject will be forfeited and the withdrawal status of the subject will be shown in the examination result notification and transcript of studies but will not be counted towards the calculation of GPA.

6.4 Study Load

6.4.1 Students are not allowed to take zero subjects in any semester unless they have obtained prior approval from the Department; otherwise they will be classified as having unofficially withdrawn from their programme of study. Any semesters in which students are allowed zero subjects will be counted towards the maximum period of registration. Students will be responsible for ensuring that they complete their programme of study within the maximum period of registration. The latter are shown in Table 6.1 below.

6.4.3 Students enrolled on mixed-mode programmes are required to take 9 credits or more in a semester in order to retain full-time status. Otherwise, they will be given a part-time status.

6.4.4 To help improve the academic performance of students on academic probation, these students will be required to take a reduced study load in the following semester (Summer Term excluded). The maximum number of credits to be taken by the students varies accordingly to the policies of individual Departments and will be subject to the approval of the authorities concerned. (Note)

6.5 Subject Exemption

6.5.1 Students may be exempted from taking any specified subjects, if they have successfully completed similar subjects previously in another programme or have demonstrated the level of proficiency/ability to the satisfaction of the subject offering Department. Subject exemption is normally decided by the subject offering Department. If students are exempted from taking a specified subject, the credits associated with the exempted subject will not be counted towards meeting the award requirements (except for exemptions granted at admission stage). It will therefore be necessary for the students to consult the programme offering Department and take another subject in order to satisfy the credit requirement for the award.

6.6 Credit Transfer

6.6.1 Students may be given credits for recognised previous studies and the credits will be counted towards meeting the requirements for award. Transferred credits may be counted towards more than one award. The granting of credit transfer is a matter of academic judgment.

6.6.2 Credit transfer may be done with or without the grade being carried over; the former should normally be used when the credits were gained from PolyU. Credit transfer with the grade being carried over may be granted for subjects taken from outside the University, if deemed appropriate, and with due consideration to the academic equivalence of the subjects concerned and the comparability of the grading systems adopted by the University and the other approved institutions. Subject credit transfer is normally decided by the subject offering Department.

6.6.3 The validity period of credits previously earned is up to 8 years after the year of attainment.

6.6.4 Normally, not more than 50% of the credit requirement for award may be transferable from approved institutions outside the University. For transfer of credits from programmes offered by PolyU, normally not more than 67% of the credit requirement for award can be transferred. In cases where both types of credits are being transferred (i.e. from programmes offered by

Note: The maximum number of credits to be taken in a semester by students on academic probation will be decided by the Departments. The maximum number could be set on a departmental basis or programme basis, or even student-specific, as deemed appropriate.

PolyU and from approved institutions outside the University), not more than 50% of the credit requirement for award may be transferred.

6.6.5 If a student is waived from a particular stage of study on the basis of advanced qualifications held at the time of admission, the student concerned will be required to complete fewer credits for the award. For these students, the deducted credits at admission stage will be counted towards the maximum limit for credit transfer when students apply for further credit transfer after their admission.

6.6.6 All credit transfers approved will take effect only in the semester for which they are approved. A student who applies for transfer of credits during the re-enrolment or the add/drop period of a particular semester will only be eligible for graduation at the end of that semester, even if the granting of credit transfer will immediately enable the student to satisfy the credit requirement for the award.

6.6.7 For credit transfer of retaken subjects, the grade attained in the last attempt should be taken in the case of credit transfer with grade being carried over. Students applying for credit transfer for a subject taken in other institutions are required to declare that the subject grade used for claiming credit transfer was attained in the last attempt of the subject in their previous studies. If a student fails in the last attempt of a retaken subject, no credit transfer should be granted, despite the fact that the student may have attained a pass grade for the subject in the earlier attempts.

6.6.8 Students should not be granted credit transfer for a subject which they have attempted and failed in their current study.

6.7 Deferment of Study

6.7.1 Students may apply for deferment of study if they have a genuine need to do so such as illness or posting to work outside Hong Kong. Approval from the Department is required. The deferment period will not count towards the maximum period of registration.

6.8 Registration Period

6.8.1 Subjects within the programme will be offered often enough to enable students entering the programme with the minimum admission requirements and undertaking the normal study pattern to complete the award requirements within the normal duration, this is specified below in Table 6.1.

Table 6.1 Normal Study Duration and Maximum Registration

Award	Normal Duration	Maximum Registration Period
MSc in Knowledge Management (Part-time)	2 Years	4 Years
MSc in Knowledge Management (Full-time)	1 Year	4 Years

6.9 **Compulsory Graduation**

6.9.1 As soon as students have satisfied the criteria for graduation in the programme, they will be required to graduate. This requirement has been stipulated in order to ensure the most efficient use of the PolyU resources.

6.10 **Departmental Postgraduate Programme Committee**

6.10.1 The Head of Department can decide on the composition of the Departmental Postgraduate Programme Committee. The Departmental Postgraduate Programme Committee will meet at least twice a year, and additionally at the request of the Chairman or of one-third of its membership or of the Chairman of the Senate. It will exercise the overall academic and operational responsibility for the programme and its development within defined policies, procedures and regulations.

The Committee will be specifically responsible for the following:

(i) the effective conduct, organisation and development of the programme;

(ii) stimulation of the development of teaching methods and programme materials, through Heads of Departments, Theme Group Leaders, and the Educational Development Centre, as appropriate;

(iii) review of academic regulations, admission policy, assessment and examination methods;

(iv) formal submissions to appropriate professional bodies, normally via the Head of the host Department and in accord with the University's established procedures;

(v) the continuing critical review of the rationale, aims, intended learning outcomes (ILOs) and the alignment of teaching, learning and assessment with the ILOs, programme learning outcomes assessment and its results, and the improvement and

development of the programme(s);

(vi) definition and maintenance of the programme’s academic standard;

(vii) ensuring that the views of students and other key stakeholders on the programme are known and taken into account;

(viii) evaluation of the operation, health and progress of the programme as defined in the University's programme review procedures.

6.11 Programme Leader

6.11.1 A Programme Leader will normally be a member of the programme offering Department and be appointed by the Head of Department. The appointment will be subject to the confirmation by the Chairman of the appropriate Faculty Board. In the unavoidable absence of a Programme Leader, an acting Programme Leader will be appointed by the Head of the programme offering Department. A Programme Leader is accountable in day-to-day operational terms to the Head of Department; and will normally hold office for a full cycle of the programme, but can then be considered for re-nomination. The Programme Leader will provide the academic and organizational leadership for the programme.

6.12 Programme Executive Group

6.12.1 For programmes which are substantial, e.g. in scale, in the range of subjects or complexity, a small Programme Executive Group, would normally manage the day-to-day operation of the programme within the agreed scheme. The Group would operate informally, be organized by the Programme Leader and typically include staff with key programme responsibilities. For relatively simple programmes, the Programme Leaders would manage the day-to-day operation of the programmes.

6.13 Theme Group Leaders

6.13.1 Theme Group Leaders are senior members of academic staff appointed by the Head of Department. They are responsible for the activities and development of subjects within a theme group which are part of the curricula of the programmes offered by the Department.

6.14 Student/Staff Consultative Group

6.14.1 The importance of assessing students' opinion on the organisation and running of the programme on a continual basis is recognised and formal arrangements for this purpose are in place. The Group should have equal numbers of students and staff, that student membership should include all years of study under the normal progression pattern and other major student groupings, and that staff membership should cover all the main subject areas and activities of the programme. A member of staff may chair the Group. The Group is to discuss any matters directly related to the programme, and to report or make recommendations, as deemed necessary, to the Departmental Postgraduate Programme Committee. Meetings are usually held once per semester.

6.14.2 It is important that students do not perceive meetings of the Group as the only or main channel for dealing with student problems and complaints accumulated since the last meeting. Such matters would be dealt with when they occurred, through the Programme Leader or other appropriate staff. This would allow meetings of the Group to be used for constructive discussion of the programme in general, of the demands of the programme on students, and of possible improvements.

Section 7 - Programme Evaluation and Development (PED)

7.1 The PED procedures are intended to assess the:

(i) extent to which the aims and objectives are being met and what measures need to be taken to remedy any deficiencies identified; and

(ii) continuing relevance of the aims and subject objectives and the ways they need to be modified to take account of technological change and the development of Hong Kong's industries.

7.2 The programme evaluation procedures are conducted at two levels: firstly at the Programme Executive Group / Departmental Postgraduate Programme Committee level continuously through the year and secondly to the Departmental Postgraduate Programme Committee/Departmental Academic Advisor level at the end of each year. The first level is described in Section 6 of this document and the other below.

7.3 The Department Postgraduate Programme Committee holds its Annual Programme Review Meeting each year after the BoE has met as described in Section 5 of the DPD. The issues described in Section 6 are considered, particularly as revealed by examination performance, and recommendations for action are made to remedy any deficiencies identified. Following the Annual Programme Review Meeting, the Programme Leader submits the Annual Programme Report (which is encapsulated as part of the Department's Business Plan) to the Engineering Faculty Board each year which for the previous academic year,

(i) summarises the operation of the programme;
(ii) lists any modifications that are deemed necessary; and
(iii) proposes substantial changes to the structure or content of the programme, or for changes with significant resource implications.

7.4 The Department Postgraduate Programme Committee adopts a policy of continuous improvement and is continuously evaluating the effectiveness and relevance of the Programme. This policy of continuous improvement includes soliciting the views of the Department's Advisory Committee, local industrialists, graduates, and the Department Academic Advisor.

7.5 The Programme is subject to an evaluation, normally every six years, as part of the PolyU's Departmental Assessment exercise. This is external to the Department and makes a critical appraisal of the standing, progress, and future of all programmes that a department operates. The policy of continuous improvement as mentioned in 7.4 attempts to render a major in-depth programme appraisal unnecessary prior to a Departmental Assessment.

Section 8 - Subject Syllabi

Syllabi for all subjects and projects of the programme are listed in Table 8.1. ISE subjects are listed first, followed by subjects serviced by other departments. The subject coordinators for the ISE subjects will be updated regularly. Please access the departmental website http://www.ise.polyu.edu.hk/programmes/info/ss.

Table 8.1 Syllabi Index

** Subjects offered by other programmes with limited quota. There is no guaranteed quota.*

Subject Code	ISE 542
Subject Title	Managing Knowledge
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Mutual Exclusion of ISE531 Principles of Knowledge Engineering and Management and ISE458 Introduction to Knowledge Management
Objectives	The aims of the subject are to: 1. Introduce the students the foundations of KM. 2. Provide the students with an insight and introductory working knowledge to allow them to effectively apply KM in organizations to achieve their objectives and lead and promulgate KM efforts for business effectiveness and success. 3. Equip the students with the practitioner understanding and proficiency to initiate, assess, operate, disseminate, and manage KM practices, projects, programs, and other KM efforts with an enterprise.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. understand the concepts and ethical issues in KM b. select and devise KM strategies, programmes and actions to provide effective business support c. conduct knowledge audit and use of various knowledge audit methods for analyzing and reporting findings for KM related planning d. To conduct a feasibility study on the implementation of knowledge management projects in an organization.
Subject Synopsis/ Indicative Syllabus	The subject aims to introduce the students to the foundations of KM. It is designed to provide the students with KM practitioner understanding of how KM

	fits into, and supports business operations with the further understanding of how KM is conducted from a system approach. Some of the key topics covered in this subject include: *Knowledge Management Essentials* Evolution of knowledge, theory and concepts of KM, Type of knowledge, nature of knowledge work *Managing Knowledge Processes* Various knowledge processes and their applications, methods and tools for managing knowledge processes *Knowledge Auditing* Role and importance of knowledge audit, knowledge audit process and practices , methods and tools for conducting knowledge auditing, analysis and reporting the results of a knowledge audit *Knowledge Management Related Strategies* KM strategy and how to manage culture aspects, and initiatives of KM, People-centric and IT-based KM from business perspectives based on understanding that business performance results from knowledgeable (competent), motivated, and accountable human actions, in part supported by IT capabilities. *Knowledge Management Practices* KM practices in different industries, the management of KM projects, ethical issues in KM, case studies
Teaching/Learning Methodology	This subject is offered in a blended mode of e-learning and face-to-face teaching is used to facilitate the students to learn. A mixture of e-learning, instructor-lead tutorials and workshops, and case studies will be used to deliver the topics in this subject. Case studies, largely based on real case will be used to demonstrate to students how the latest techniques can be applied to improve the real life situations. The students can access the Blackboard e-learning platform which contains interactive online materials for the lessons. Each of the lessons may incorporate designated reading (chapters, sections, pages) in the textbook and recommended readings in the form of separate articles and papers which are available online

or at the library. In all lessons, animations and interactive games have been added in appropriate locations to facilitate and strengthen learning and understanding. A number of self-assessment exercises are also included to enable participants to monitor their personal progress.

In addition, the Blackboard platform supports peer-to-peer activities in form of online chat forums and bulletin boards. This peer-to-peer interaction not only enhances knowledge sharing and learning from peers but also helps strengthen or clarify concepts delivered in lecture materials. Participants are strongly encouraged to make effective use of all learning tools available to optimise their learning in this subject.

To facilitate the students to learn, the students are also expected to participate in instructor led face-to-face or on-line teaching activities which include workshop, tutorials, seminars, etc. The students will also get in touch with the facilitators through the bulletin board discussions.

Some of the teaching activities will be covered in a problem-based format where this enhances the learning objectives. Others will be delivered directly through directed study in order to enhance the students' ability of "learning to learn". Mini-project will be used to integrate these topics and thus demonstrate to students how the various techniques are inter-related and how they apply in real life situations. Cross fertilization of ideas and experiences of students through discussions and presentations are highly encouraged.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed					
		A	b	c	d		
1.Individual assignment	15%	✓	✓				
2. Presentation	8%			✓	✓		
2. Group assignment	12%			✓	✓		
3.Perosnal Learning Environment and Network (PLE&N)	10%	✓	✓	✓	✓		

	4. Open Book Examination	55%	✓	✓	✓	✓		
	Total	100 %						

Basically, the assessment method of the subject is composed of coursework and examination. The coursework assessment includes individual assignment, personal learning environment and network (PLE&N) board, presentation and report for KM strategy workshop. Written examination will be arranged at the end of the semester. All assessment components will require students to apply what they have learnt to realistic work applications.

A student is expected to perform satisfactorily in BOTH the coursework and the examination. The subject coordinator can exercise discretion to alter the final subject result should there exists significant variation in a participant's performance in these 2 components.

The individual assignment facilitates the students to reflect what they learn in learning outcomes (a) and (b). The presentation and group assignment for KM strategy workshop provide a team work environment for facilitates the students to apply the concepts, theory and skills learnt in the subject for a real life scenario (e.g. Learning Outcomes (c) and (d)).

Every student is required to set up a personal learning environment and network (PLE&N) and contributes to discussions and learning in this environment during the semester and beyond (Learning outcomes (a) to (d)).

An open book examination is held at the end-of-semester which aims at assessing students' understanding of the theory, concepts and knowledge necessary for achieving the learning outcomes (a) to (d) for the subject.

Student Study Effort Required	Class contact:	
	On-line Lectures/Seminars 3 hours x 2 weeks, 2 hours x 1 week	8 Hrs.
	Face-to-face *Lectures*/Presentations/Tutorial/Workshop 3 hours x 9 weeks	27 Hrs.
	Wiki/Bulletin Board contributions 1 hour per week x 7 weeks	7 Hrs.

	Other student study effort:	
	Study and self learning including workshop	28 Hrs.
	Preparation and revision	20 Hrs.
	Assignment and report writing	28 Hrs.
	Total student study effort	118 Hrs.

Reading List and References

5 Recommended Reading

1. Davenport, T.H. and Prusak, L., *Working Knowledge: How Organisation Manage What They Know*, Harvard Business School Press, 1997.
2. Despres, C. and Chauvel, D. (Editors), *Knowledge Horizons: The Present and the Promise of Knowledge Management*, Butterworth-Heinemann, Boston, 2000.
3. Filemon A. Uriarte, Jr. Introduction to Knowledge Management, ASEAN Foundation, Jakarta, Indonesia, 2008.
4. Kimiz Dalkir, 2005, Knowledge Management in Theory and Practice, Elsevier Butterworth–Heinemann., UK, 2005.
5. Klein, G., *Sources of Power: How People Make Decisions*, MIT Press, Cambridge, 1998.
6. Liebowitz, J. (Editors), *Knowledge Management Handbook*, CRC Press, Boca Raton, 1999.
7. Stewart. T.A., *Intellectual Capital: The New Wealth of Organizations*, Currency Doubleday, New York, 1997.
8. Sveiby, K.E., *The New Organizational Wealth: Managing & Measuring Knowledge-based Assets*, Berrett-Koehler, San Francisco, 1997
9. Tiwana, A., *Knowledge Management Toolkit*, Prentice hall, 2nd Edition, 2002.
10. Wiig, Karl, People-Focused Knowledge Management: How Effective Decision Making Leads to Corporate Success, Butterworth-Heinemann, 2004.

In Addition:

11. Cheung, C.F., Lee, W.B., Wang, W.M., Chu, K.F. and To, S. "A Multi-perspective Knowledge-based System for Customer Service Management", *Expert Systems with Applications*, Vol. 24, No.4, p.457-470 (2003).

12. Cheung, C.F., Lee, W.B., Wang, W.M., Wang, Y. and Yeung, W.M. "A Multi-faceted and Automatic Knowledge Elicitation System (MAKES) for Managing Unstructured Information", *Expert Systems with Applicat*ions, Vol. 38, No. 5, 5245–5258 (2011).
13. Cheung, C.F., Li, M.L., Shek, W.Y., Lee, W.B. and Tsang, T.S. "A Systematic Approach for Knowledge Auditing: A Case Study in Transportation Sector", *Journal of Knowledge Management*, Vol. 11, No. 4, p. 140-158 (2007).
14. Cheung, C.F., Ko, K.C., Chu, K.F. and Lee, W.B. "Systemic Knowledge Auditing with Applications", *Journal of Knowledge Management Practice*, August, http://www.tlainc.com/articl97.htm, 2005.
15. Cheung, C.F., Wang, W.M. and Leung, C.S. "A Pilot Study on a Knowledge-based Case Library to Support Suicide Risk Assessment, *International Social Work*, Vol. 56, No. 2, p.208-227 (2013).
16. Choy, S.Y., Lee, W.B. and Cheung, C.F. "A Systematic Approach for Knowledge Audit Analysis: Integration of Knowledge Inventory, Mapping and Knowledge Flow Analysis," *Journal of Universal Computer Science*, Vol. 10, No.6, p.674-682 (2004).
17. Choy, S.Y., Lee, W.B., Cheung, C.F. and Geoffrey Shim "Development of a Knowledge Management Culture Assessment Tool (KMCAT) with Applications in Aviation Industry", *Journal of Information and Knowledge Management*, Vol. 4, No. 3, p.179-189, 2005.
18. *Harvard Business Review on Knowledge Management*, Harvard Business Review Series, 1998.
19. Leung Zeno, Cheung, C.F., Chan, K.T. and Lo, H.K. "Effectiveness of Knowledge Management System in Social Services - Food Assistance Project as an Example", *Administration in Social Work*, Vol. 36, p.302–313 (2012).
20. Nonoka, I. and Takeuchi, H., *The Knowledge-Creating Company*, Oxford University Press, 1995
21. Ruggles, R.L.E., *Knowledge Management Tools: Resources for the Knowledge-Based Economy*, Butterworth-Heinemann, Boston, 1997
22. Shek, W.Y, Lee, W.B., Cheung, C.F. and Chong, Y.Y. "Systematic Knowledge Auditing: A Case Study in a Power Utility Company", Journal of Information and Knowledge Management, Vol.6, No. 4, p.231-239 (2007).
23. Skyrme, D.J., *Measuring the Value of Knowledge: Metrics for the Knowledge-Based Business*, Business Intelligence, London, 1998.

	24. Wiig, K.M., *Knowledge Management Foundations: Thinking about Thinking – How People and Organisations Create, Represent, and Use Knowledge*, Schema Press, Arlington, 1993. 25. Wiig, K.M., Knowledge management: The Central Management Focus for Intelligent-Acting Organisations, Schema Press, Arlington 1994. 26. Yeung, C.L., Cheung, C.F., Wang, W.M. and Tsui, Eric "A Knowledge Extraction and Representation System for Narrative Analysis in the Construction Industry", *Expert Systems with Applications*, Vol. 41, No. 13, p.5710-5722 (2014). 27. Zeno Leung, C.S., Cheung, C.F., Chu, K.F., Lee, W.B. and Wong, Y.W. "Assessing Knowledge Assets - Knowledge Audit of a Social Service Organization in Hong Kong", *Administration in Social Work*, Vol. 34, No. 4, p.361-383 (2010).

Subject Code	ISE543
Subject Title	Methods and Tools for Knowledge Management Systems
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Nil
Objectives	Students are expected to have an overall understanding of the major issues related to the role, alignment, and deployment of Knowledge Management Systems (KMS) in organizations. Techniques for organizing and searching knowledge, and assessment of technical infrastructure are also discussed. Students are expected to gain a holistic and in-depth understanding of many KM-related technologies and their evolution, as well as be able to relate and assess its suitability for their own organizations.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. gain an overall understanding of the prevailing methods and common technologies related to managing knowledge individually and in organizations; b. apply KM-related methods and technologies to the multiple stages and needs of a KM program (e.g., project identification and ranking, resource building, knowledge creation, sharing, and operation); c. critically examine various techniques for organizing and searching for knowledge and assessment of technical infrastructure; d. gain a holistic and in-depth understanding of many KM-related technologies, relate and assess their suitability to their own organizations, and derive a customized roadmap for the deployment of such technologies/systems.
Subject Synopsis/ Indicative Syllabus	This subject introduces students to the various types of technologies that support knowledge creation, collection, valuation, and collaboration systems commonly used in organizations. Key topics include 1. the origin, evolution, and role of Knowledge Management Systems, the deployment of a Knowledge Management System, and associated business models; 2. core KM technologies: Search, categorization/taxonomy, and classification systems, collaborative systems, Enterprise Knowledge Portals; 3. personal Knowledge Management – Skills, technologies, and synergy with Enterprise Knowledge Management;

<table>
<tr><td></td><td>4. Web 2.0, social software and cloud computing</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Interactive and multimedia online learning materials are available to students for self-directed learning. Online quizzes, discussion forums, email support, and supplementary face-to-face instructor-led seminars/workshops are also conducted to facilitate students' learning. Case studies are used to expose students to real-world situations and constraints. They are asked to formulate various strategies and/or solutions to problems identified.

<table>
<tr><td rowspan="2">Teaching/Learning Methodologies</td><td colspan="4">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>Lecture</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Tutorial</td><td></td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Personal Learning Environment and Network (PLEN)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table></td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="4">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>1. Tutorial/workshop exercise (on a topic discussed during the activity)</td><td>15%</td><td>✓</td><td></td><td>✓</td><td></td></tr>
<tr><td>2. Bulletin board (on a wide range of issues covered in the subject)</td><td>10%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table></td></tr>
</table>

	3. Assignment [on the deployment, assessment, applications of KM System(s)]	20%	✓	✓	✓	✓
	4. Examination	55%	✓	✓	✓	✓
	Total	100%				

This subject covers a wide spectrum of topics on various technologies that support the harnessing, capturing, representation, and sharing of knowledge. The chosen assessment methods comprehensively gauge the learner's knowledge and mastery of various topics covered in the subject. Emphasis is placed on how to align various technologies to solve business problems, as well as the use of technology to support knowledge management at the enterprise and personal levels. The above assessment modes are appropriate because together they not only cater to the background and experience of the student, but also ensure the student, by attempting all the components successfully, will achieve the desired learning outcomes for the subject.

Student Study Effort Expected **(Block Mode / Evening Mode)**	Class contact:	
	▪ Face-to-face lectures/presentations 3 hours per week x 7 weeks	21 Hrs.
	▪ Online lectures/seminar/presentations 2 hours per week x 2 weeks	4 Hrs.
	▪ Wiki/Bulletin Board contributions 1 hour per week x 13 weeks + 1 hour setup	14 Hrs.
	Other student study effort:	
	▪ Study of online content 2 hours per week x 13 weeks	26 Hrs.
	▪ Preparation and revision	26 Hrs.

	▪ Assignments and projects	26 Hrs.
	Total student study effort:	117 Hrs.
Reading List and References	Textbook: Tiwana, A. 2003, *The Knowledge Management Toolkit: Orchestrating IT, Strategy, and Knowledge Platforms*, 2nd Edition, Pearson Education References: 1. Becerra-Fernandez, I. and Sabherwal, R. 2015, Knowledge management Systems and Processes, 2nd Edition, Routledge, New York 2. Rao, M. 2012, *Knowledge Management Tools and Techniques*, Elsevier Butterworth-Heinemann, Amsterdam 3. McElroy, M. 2003, *The New Knowledge Management*, KMCI Press, Amsterdam 4. Alavi, M and Leidner, D, E. 1999, *Knowledge Management and Knowledge Management Systems: Conceptual Foundation and Research Issues*, INSEAD Working Paper No. 99/34	

Subject Code	ISE5600
Subject Title	Organizational Learning: Methods and Practices
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Pre-requisite : ISE542
Objectives	The objectives are to provide students with 1. an understanding of the evolution of organizational learning; 2. an appreciation to identify the characteristics and limitations of learning organizations; 3. a working knowledge of various tools in team learning, such as action science, systems thinking, scenario planning, and storytelling; 4. an understanding of the barriers involved in organizational learning.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. critically examine various theories, their rationale, and their applicability in achieving organizational learning; b. apply appropriate learning strategies in an organizational setting; c. select and test various inquiry techniques to influence personal to organizational transformation; d. differentiate various organizational barriers and strategic inertia for organizational change;
Subject Synopsis/ Indicative Syllabus	1. <u>Introduction to Organizational Learning</u> The importance of learning; Searching for an excellent organization; Defining a learning organization; Organizational learning vs. learning organization. 2. <u>The Process of Organizational Learning</u> Defining learning; Theories of learning; Motivators of learning; Organizational learning framework; Methods of organizational learning. 3. <u>The Art of Organizational Learning</u> Identifying how organizations can learn; Building a knowledge work

<table>
<tr><td></td><td>team; Sharing mental models; Facilitation of team learning; Learning for action and change.

4. <u>Systems Thinking: Managing Chaos and Complexity</u>

Flaws in the current mental models; “From Fragments to Connections,” a system view of complexity; Introduction to system dynamics; Soft systems thinking.

5. <u>Scenario Learning, Storytelling, and Sense-making</u>

“The journey to social complexity, Learning from scenarios,” a storytelling organization-related and sense-making methodology.

6. <u>Organizational Forgetting and Unlearning</u>

Understanding organizational forgetting; corporate amnesia, theories of unlearning, unlearning as a strategy for change.

7. <u>Building Learning Organizations</u>

“The journey to becoming a learning organization,” exploring changes from personal to organizational transformation; Assessing the learning organization.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>The teaching will be conducted in a blended learning mode in which both face-to-face and online learning materials are used to self-directed reading.

<table>
<tr><td rowspan="2">Teaching/Learning Methodologies</td><td colspan="4">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>Lecture</td><td>✓</td><td>✓</td><td></td><td>✓</td></tr>
<tr><td>Tutorial</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Personal Learning Environment and Network (PLEN)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
</td></tr>
</table>

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			
		a	b	c	d
1. Personal Learning Environment and Network (PLEN)	15%	✓	✓	✓	✓
2. Reflective Journal and Critique	30%	✓	✓	✓	✓
3. Assignment	30%		✓	✓	
4. Test	25%	✓	✓	✓	✓
Total	100%				

The Bulletin Board is a general online chat room to collect feedback on student learning of the subject, after which the quality of their participation is assessed. The reflective journal is a critique of what students learned in the subject; it covers all learning outcomes, except for the individual project. The assignments are reports on the action learning workshops attended by the students; they address learning outcomes (b) and (c). As for the test, students are required to integrate all their learning on the subject, and hence, all learning outcomes are involved at different extents.

Student Study Effort Expected (Mixed Mode)

Class contact:	
▪ Face-to-face lectures/workshops/presentations 3 hours per week x 5 sessions	15 Hrs.
▪ On-line learning and Personal Learning Environment and Network (PLEN) 2 hour per week x 13 weeks	26 Hrs.
Other student study effort:	
▪ Directed Reading and Self Study	26 Hrs.

	2 hours per week x 13 weeks	
	▪ Case-based Project/Assignments	40 Hrs.
	Total student study effort	107 Hrs.
Reading List and References	1. Senge P.M. (2010). *The Fifth Discipline: The Art and Practice of the Learning Organization (3rd ed.)*. Doubleday/Currency, New York. [Highly recommended] 2. Argyris, C. (1978). *Organizational Learning: A Theory of Action Perspective*. Addison-Wesley, Reading, Massachusetts.	

Subject Code	ISE 5601
Subject Title	Managing and Measuring Intellectual Capital
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	None
Objectives	This subject aims to provide students with: 1. Working knowledge of different elements of intellectual capital and deriving values from intellectual capital 2. The theory and practice for the strategic management of intellectual capital and its life cycle of implementation 3. Understanding with different approaches for measuring and reporting value of intellectual capital
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. identify and differentiate fundamental elements of intellectual capital and intellectual capital management b. familiarize with the value chain of intellectual capital and activities for deriving values from intellectual capital c. apply, justify and implement appropriate approach for the management of intellectual capital as a strategic resource d. apply appropriate approaches for measuring and reporting value of intellectual capital

Subject Synopsis/ Indicative Syllabus	This subject is to provide an overview of methods and approaches to manage and measure knowledge-based assets, and show the critical importance of various intellectual capital and intangible assets management approaches to the success of knowledge management initiatives and strategies. The following topics are covered: *Intellectual capital management foundations* • Evolution of intellectual capital and its business value • Definitions and conceptual differences of intangible assets, knowledge-based assets and intellectual capital • Legal management of intellectual capital *Converting Intellectual Capital to Value* • Value chain of intellectual capital • Value creation and value extraction activities for converting intellectual capital to value • Major types of intellectual capital management activities that facilitate value creation and extraction *Measuring and Reporting Intellectual Capital* • Established models for measuring intellectual capital and corporate performance e.g. Balanced Score Cards, intellectual capital statement, intangible asset monitor, Skandia Navigator, etc. • Methods and tools for reporting intellectual capital in organizations *Implementation of Intellectual Capital Management Programme* • Intellectual capital implementation approaches with emphasis on Comprehensive Intellectual Capital Management (CICM) model and its implementation • Case studies
Teaching/Learning Methodology	As shown in Table 1, this subject is offered in a blended mode of online learning and face-to-face teaching. A mixture of e-learning, instructor-lead tutorials and workshops, and case studies will be used to deliver the topics in this subject. Case studies, largely based on real case will be used to

demonstrate to students how the latest techniques can be applied to improve the real life situations.

The students can access the e-learning platform which contains interactive online materials for the lessons. In addition, the e-learning platform supports peer-to-peer activities in form of online chat forums and bulletin boards. This peer-to-peer interaction not only enhances knowledge sharing and learning from peers but also helps strengthen or clarify concepts delivered in lecture materials. Participants are strongly encouraged to make effective use of all learning tools available to optimise their learning in this subject.

To facilitate the students to learn, the students are also expected to participate instructor lead face-to-face or on-line teaching activities which include workshop, tutorials, etc.

Some of the teaching activities will be covered in a problem-based format where this enhances the learning objectives. Others will be delivered directly through directed study in order to enhance the students' ability of "learning to learn". Mini-project will be used to integrate these topics and thus demonstrate to students how the various techniques are inter-related and how they apply in real life situations. Cross fertilization of ideas and experiences of students through discussions and presentations are highly encouraged.

Table 1

Teaching/Learning Methodology	Intended subject learning outcomes				
	a	b	c	d	
1. Lectures/Online Guest Lecture	√	√	√	√	
2. Interactive Online Materials	√	√	√	√	
3. Workshops	√			√	
4.In-class Case Studies and Tutorials	√	√		√	
5.Mini-project	√	√	√	√	

Assessment Methods in Alignment with Intended Learning Outcomes

As shown in Table 2, the assessment method of the subject is composed of coursework and examination. The coursework assessment includes individual assignment, workshop assignment, and group mini-project. Written examination will be arranged at the end of the semester. All assessment components will require students to apply what they have learnt to realistic work applications.

The individual assignment allows the students to reflect individual learning for the subject matters related to learning outcomes (a), (b) and (d). The workshop assignment is provided to assess the technical competency and skills of the students to use and practice the methods and tools learnt during the workshop and classes which reflect their learning outcomes (a), (c) and (d). The group mini-project provides a team work environment for facilitates the students to apply the concepts, theory and skills learnt in analyzing and solving problems in managing and measuring IC for a real life scenario (e.g. Learning Outcomes (a) to (d)).

The end-of-semester open book examination aims at assessing students' understanding of the theory, concepts and knowledge necessary for achieving the learning outcomes (a) to (d) for the subject.

Table 2

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed					
		a	b	c	d		
1. Individual assignment	15%	✓	✓		✓		
2. Presentation of mini-project	8%	✓	✓	✓	✓		
3. Written report for mini-project	12%	✓	✓	✓	✓		
4.Workshop assignment	10%	✓		✓	✓		
5.Open book examination	55%	✓	✓	✓	✓		
Total	100 %						

A participant is expected to perform satisfactorily in BOTH the coursework and the examination. The subject coordinator can exercise discretion to alter the final subject result should there exists significant variation in a

	participant's performance in these 2 components.	
Student Study Effort Required	Class contact:	
	▪ Face-to-face Lectures/ Tutorials/Workshops/Presentations 3 hours x 13 weeks	39 Hrs.
	Other student study effort:	
	▪ Individual Assignment and Workshop Assignment	30 Hrs.
	▪ Study and self learning	22 Hrs.
	▪ Mini-project and assignments	24 Hrs
	Total student study effort	115 Hrs
Reading List and References	1. Al-Ali, N. (2003) Comprehensive Intellectual Capital Management: Step-by-Step. John Wiley & Sons, Inc., Hoboken, New Jersey. 2. Andriessen, D. & Stam, C. (2004). The Intellectual Capital of the European Union. Measuring the Lisbon Agenda Centre for Research in Intellectual Capital, Inholland University. 3. Andriessen, D. (2003). Making Sense of Intellectual Capital. Designing a Method for the Valuation of Intangibles. Butterworth Heinemann. 4. Andriessen, D. and Boom, M. van den (2006). Asia and Europe, knowledge economies in encounter. INA Magazine, Vol.XVII, 15-18. 5. Andriessen, D. G. and Boom, M. van den (2007). East is East, and West is West, and (n)ever its intellectual capital shall meet. Journal of Intellectual Capital, 8. 6. Cai, Linlin, Tsui, Eric and Cheung, Chi Fai "An Exploratory Study on an Intellectual Capital Eco-system", Proceedings of IFKAD 2014-International Forum on Knowledge Asset Dynamics, June 11- June 13, Matera, Italy, p.2952-2966 (2014). 7. Cai, Linlin, Tsui, Eric and Cheung, Benny "A Critical Analysis of Intellectual Capital Reports in Banking Industry from 1994 to 2011",	

Proceedings of 10th International Conference on Intellectual Capital, Knowledge Management and Organisational Learning (ICICKM2013), October 23- October 25, Washington, DC, USA, pp.667-673 (2013).

8. Cai, L, Tsui, E, Cheung, C.F. "A Taxonomic Approach to the Identification of Intellectual Capital from Company Reports", Proceedings of IEEE International Conference on Software Engineering and System Science, May 23- May 25, Beijing, China, pp.338-341 (2013).
9. Cheung, C.F., Lee, W.B., Eric Tsui and Chan, W.K. "Auditing Intellectual Capital: A Case Study in a Supply Chain Integrator", Proceedings of 3rd International Conference on Intellectual Capital, Knowledge Management and Organisational Learning (ICICKM 2006), October 19-20, Pontificia Universidad Católica de Chile, Santiago, Chile, p.99-105 (2006).
10. Tsui, E., Wang, W.M., Cai, L.L. and Cheung C.F., and Lee, W.B. "Knowledge-based Extraction of Intellectual Capital-related Information From Unstructured Data, Expert Systems with Applications, Vol. 41, No. 4, p.1315-1325 (2014).
11. Intellectual Property Department, The Government of the Hong Kong SAR. (2009). Intellectual Capital Statement (2009), http://www.ipd.gov.hk/eng/pub_press/publications/IC_Statement.pdf.
12. Intellectual Property Department, The Government of the Hong Kong SAR (2009). Intellectual Capital Statements of Organisations in Hong Kong in 2009, http://www.ipd.gov.hk/eng/ICM/intellectual_capital_statements_09.htm.
13. Intellectual Property Department, The Government of the Hong Kong SAR. (2010). Intellectual Capital Statements of Organisations in Hong Kong in 2010, http://www.ipd.gov.hk/eng/ICM/intellectual_capital_statements_10.htm.
14. Stam, C. D. (2007). Knowledge productivity. Designing and testing a method to diagnose knowledge productivity and plan for enhancement.
15. Sullivan, P. H. (2000). Value-Driven Intellectual Capital: How to Convert Intangible Corporate Assets into Market Value. John Wiley & Sons, Inc., Hoboken, New Jersey
16. Sveiby, K. E. (1997). The New Organizational Wealth: Managing & Measuring Knowledge-Based Assets. Berrett-Koehler Publishers, San Francisco.

	17. Edvinsson, L. and Malone, M.S. (1997). Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower, Harper, New York. 18. Low, J. and Kalafut, P.C. (2002). Invisible advantage: How Intangibles are Driving Business Performance, Perseus Publishing, Cambridge 19. Stewart, T.A. (1998). Intellectual Capital: The New Wealth of Organizations, Nicholas Brealey, London. 20. Tissen, R. and Andriessen, D. and Deprez, F.L. (2000). The Knowledge Dividend: Creating High-Performance Companies through Value-Based Knowledge Management, Financial Times Prentice Hall, London.

Subject Code	ISE5604
Subject Title	Strategic Issues and Case Studies in Knowledge Management
Credit Value	3
Level	5
Pre-requisite	ISE542 and ISE543
Objectives	This subject aims to familiarize the students with advanced topics and research findings from knowledge management (KM) literature and experiences from implementation. It also aims to equip students with a general management and strategic know-how of designing, deploying, and managing the implementation of knowledge-based strategies using qualitative tools, narratives, soft system methodologies, and case methods/action learning, among others.
Intended Learning Outcomes	Upon completion of the subject, students will have the ability to a. demonstrate understanding of strategic issues and advanced KM concepts, as well as provide effective KM practices and initiatives; b. apply qualitative tools and methodologies when dealing with real life KM strategic issues; c. identify the available KM standards and frameworks, as well as articulate and identify the role and applications of KM in areas of innovation, artificial intelligence, and social services.
Subject Synopsis/ Indicative Syllabus	1. <u>Knowledge Management Frameworks and Standards</u> National and international standards and frameworks for designing and deploying a KM program; Limitations of a framework and standards. 2. <u>Innovation</u> Process for innovation; Knowledge creation and innovation management. 3. <u>Artificial Intelligence</u> Relationship between artificial intelligence and KM; Common techniques and applications of artificial intelligence.

<table>
<tr><td></td><td>4. <u>Knowledge Management in Social Services</u>

Social work as a knowledge-intensive service; Potential applications of KM in social work.

5. <u>Knowledge Management Project</u>

Problem identification, assessment, and solution recommendation for a real life project in KM.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Interactive and multimedia online learning materials are made available to students for self-directed learning. Online quizzes, discussion forums, email support, and supplementary face-to-face instructor-led seminars are also provided to facilitate student learning.

<table>
<tr><td rowspan="2">Teaching/Learning Methodologies</td><td colspan="3">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td></tr>
<tr><td>Lecture</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Seminars</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Case studies</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Personal Learning Environment and Network (PLEN)</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="3">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td></tr>
<tr><td>1. Bulletin Board</td><td>15%</td><td></td><td></td><td>✓</td></tr>
<tr><td>2. Case Study</td><td>30%</td><td>✓</td><td></td><td>✓</td></tr>
<tr><td>3. Guided-project</td><td>55%</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Total</td><td>100%</td><td colspan="3"></td></tr>
</table>
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<table>
<tr><td></td><td colspan="2">This subject is a mix of online study and exploration of simulated consultancy (real world) project. The combination of assessment methods is designed specifically to achieve the desired learning outcome. Students are asked to contribute their opinion and actively participate in discussions covering a comprehensive set of issues (e.g., innovation, KM standards, artificial intelligence, and social services). The case study tests the student's mastery of the topics, as well as their ability to apply KM to solve the revealed problem(s). The project is a significant component of the study; students are required to apply the learnt concepts in this and other subjects, thereby manifesting comprehensive learning.</td></tr>
<tr><td rowspan="9">Student Study Effort Expected
(Block Mode / Evening Mode)</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Face-to-face lectures/seminars/presentations
6 hours per week x 4 weeks</td><td>24 Hrs.</td></tr>
<tr><td>▪ Guest lecture/seminar
2 hours per week x 1 week</td><td>2 Hrs.</td></tr>
<tr><td>▪ Bulletin Board participation
1 hour per week x 13 weeks</td><td>13 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Study of online content
1 hours per week x 13 weeks</td><td>13 Hrs.</td></tr>
<tr><td>▪ Preparation and revision</td><td>28 Hrs.</td></tr>
<tr><td>▪ Assignments and projects</td><td>40 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>120 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">1. Kouzes, J.M. 2012, The Leadership Challenge: How to Make Extraordinary Things Happen in Organizations, 5rd edn, Jossey-Bass, San Francisco
2. Rosenberg, M.J. 2001, E-Learning: Strategies for Delivering Knowledge in the Digital Age, McGraw-Hill
3. Firestone, J.M. and McElroy, M.W. 2003, Key Issues in the New Knowledge Management, KMCI Press, Butterworth-Heinemann, Burlington</td></tr>
</table>

	4. Tiwana, A. 2000, *Essential Guide to Knowledge Management: The E-Business and CRM Applications*, Prentice Hall, Upper Saddle 5. Cope, M. 2003, *Personal Networking: How to make your connections count*, trans- Atlantic 6. Oram, A. 2001, *Peer-to-Peer: Harnessing the Power of Disruptive Technologies*, O'Reilly 7. Hlupic, V. 2002, *Knowledge and Business Process Management*, Idea Group 8. AS 5037 2005, *Knowledge Management Standard*, SAI Global, Sydney 9. BEA 007, 2003, *Case Studies in Knowledge Management*, Vol. 2, SAI Global, Sydney

Subject Code	ISE549
Subject Title	Management of Innovation and Technology
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Nil
Objectives	This course starts with the assumption that technology always evolves. It is often observed that when technology changes, some firms dominate the market, while many others lose their market share; some deteriorate to the point where they totally exit the market. This course is designed to provide an understanding of the relationships between technology evolution and firm strategies and their influence on firm/market performance. In particular, this course focuses on the analysis of technology evolution, industry evolution, and attempts to provide insights on firm strategies. Students will learn about a variety of tools and concepts to address firm strategies in the face of technology evolution, and to approach them from industry-level perspectives. Through readings, lectures, class discussions, and individual/group projects, students will learn to apply the tools and concepts to decisions related to technology, and will develop an understanding of their potentials and limitations in various contexts.
Intended Learning Outcomes	Upon successful completion of the subject, students will be able to a. comprehend and analyse the fundamental issues and challenges of technology management, new product development, and innovation management within an organisational context; b. follow an organisational process model for managing technology, and new product or innovation management; c. possess the insights necessary to function as an effective general manager in managing the innovation process and avoid common errors and misperceptions; d. link technology and innovation decisions to a company's strategic planning and operational management processes; e. identify and formulate managerial strategies applicable to new venture projects that involve technology and innovation.

Subject Synopsis/ Indicative Syllabus	1. Importance of Technology and Innovation in Economic and Social Development Risks and rewards of technological innovation; role of government policy in promoting technology and innovation; role of firm-level strategy in the global market 2. Importance of Technological Evolution Lessons regarding the evolution of technology; the main concept of competition changes in accordance with the technological evolution 3. Importance of Innovation Diffusion and Innovation Types Understanding on factors affecting innovation adoption; Diverse types of innovations; the heterogeneous impact of diverse innovations on firm performance 4. Compatibility and Network Effects Understanding on the origin of network effects; Characteristics of in study showing strong network effects; firm strategies to survival in the network-effect markets 5. Firm Boundary Decisions Understanding on firm boundary; the impact of firm boundary decisions on performance; key reasons that firms change their boundaries; relationship between firm boundary decision and firm capability; relationship between firm boundary decision and industry structure 6. Technology Adoption Timing Understanding on differences between early vs. late adoption and its performance heterogeneity 7. Organizational Learning Understanding why firms show heterogeneous learning processes and routines in dealing with new innovations; why some firms are faster than others in learning new innovations

Teaching/Learning Methodology

A mixture of lectures, tutorial exercises, and case studies is used to deliver the various topics. Some material is covered using a problem-based format where this advances the learning objectives. Case discussion and project activities take place against a background of conceptual materials, which include selected readings and brief lectures pertaining to the theme of each session.

Teaching/Learning Methodologies	Intended Subject Learning Outcomes to be assessed				
	a	b	c	d	e
Group Presentation			✓		
Individual Presentation		✓			
Individual Report				✓	✓
Test	✓				

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed				
		a	b	c	d	e
1. Literature Critique (Group Assessment)	10%			✓		
2. Literature Critique (Individual Assessment)	20%		✓			
3. Individual Report	30%				✓	✓
4. Test I and II	40%	✓				
Total	100%					

Assessment comprises individual and group assignments, tests, and a group project. The individual tests are designed to assess students' understanding of the lecture materials and application of the knowledge learnt. Individual participation in class discussions is used to evaluate the students' course preparation work. This also helps students to develop analytical and organisational communication skills in technology and innovation management. Interactive case analyses, group-based exercises, and assignments are used to develop and assess the students' group problem-solving process and work

	collaboration skills. The field project components require students to apply what they have learnt to realistic work scenarios.	
Student Study Effort Expected	Class contact:	
	▪ Lectures	21 Hrs.
	▪ Tutorials/Seminars/Case studies	18 Hrs.
	Other student study effort:	
	▪ Conducting projects and project discussions	20 Hrs.
	▪ Studying the materials covered by lectures for tests	30 Hrs.
	▪ Preparation for seminars/case studies	21 Hrs.
	▪ Preparation for project presentations and report writing	20 Hrs.
	Total student study effort	130 Hrs.
Reading List and References	1. Burgelman, Robert, Christensen Clayton and Wheelwright Steven, *Strategic Management of Technology and Innovation*, McGraw-Hill/Irwin (ISBN: 0-07-2536950), latest edition 2. Chesbrough, Henry, *Open Innovation*, Harvard Business Press, latest edition 3. Christensen, Clayton, *Innovation and the General Manager*, Irwin/McGraw Hill, latest edition 4. Tushman, Michael and Anderson, Philip, *Managing Strategic Innovation and Change*, Oxford Press, latest edition 5. Utterback, James, *Mastering the Dynamics of Innovation*, Harvard Business Press, Boston, MA, latest edition 6. Schilling, Melissa, *Strategic Management of Technological Innovation*, McGraw Hill, latest edition	

Subject Code	ISE5024
Subject Title	Knowledge Based Service Innovation
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	ISE542 Managing Knowledge or ISE 531 Principles of Knowledge Engineering and Management
Objectives	The subject aims to provide students with: (1) an overall understanding of the fundamental ways by which a firm's *knowledge-based organizational capabilities* enable service innovation and how these capabilities must be configurable and aligned with the enterprise strategy for superior value co-creation *with* the customers; (2) a holistic and in-depth understanding of prevailing practical methods for developing and aligning the service innovation models, processes and operations with *both* the espoused enterprise strategy *and* customer value proposition to achieve *sustainable* competitive advantage; and (3) to relate and assess the suitability of the *strategy-aligned* service innovation concepts, models and methods for their own organizations.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. view a firm's competitiveness from the knowledge- and capability-based theories perspective; and how the firm must continually reconfigure its knowledge/capability components in-line with its strategy and in harmony with the changing external customer/market, technology and/or regulatory environments to enable its service innovation to consistently co-create maximum value with the customers so as to sustain its competitive advantage; b. implement a firm's service innovation framework/model, and the associated service design, engineering, and operations models or methods using the basic constructs of the service-dominant logic and the underlying knowledge/capability-theory of firm; c. develop a strategy map and the associated end-to-end strategic business-IT alignment methods to manage/coordinate/monitor the execution of strategy-aligned service innovation to ensure the espoused customer value proposition and desired business outcomes are mutually achieved; d. critically review and assess extant and emerging service innovation examples from the literature; and relate and assess the suitability of all the above to their own organizations.

Subject Synopsis/ Indicative Syllabus	All firms including manufacturing firms are becoming service centered, focused on the customer. Service centered firms co-create value with their customers through the dynamic configuration of their people (knowledge), processes and systems, known collectively as organizational capabilities. The core of these capabilities is knowledge, which is underpinned by information technology. This subject introduces students to the underlying principles and theories of, and emerging methods for, knowledge-based service innovation. It is aimed towards possible practical applications by the students for the analysis their own organizations' services. Key topics include 1. The principles and theories of organizational knowledge, capabilities, processes, IT, strategy, and service innovation, and their inter-relationships and co-alignments for superior value creation by service (and, increasingly, manufacturing) firms to achieve sustainable competitive advantage; 2. The customer-centric Service-Dominant Logic as the fundamental construct for Service Innovation Framework and the attendant New Service Development Process and related service engineering methods for the Provider to conceptualize, design, deliver and operate new services for solving emergent customer problems, and thereby consistently co-creating value with their customers; 3. Strategy Map, based on balanced scorecard, and attendant end-to-end strategic business-IT alignment methods used by technology-enabled service firms to shape the firms' knowledge organizations and attendant dynamic capabilities to drive their strategy-aligned service innovations; 4. Illustrative examples (such as logistics and telecommunications services) extracted from leading services-related research journals or handbooks.
Teaching/Learning Methodology	It aims to relate classroom discussions to students' real-world product/service-related issues encountered in their organizations. Students are expected to study their organizations' product/service models and the supporting IT and organizational environments (as a preparation for the subject), as well as the recommended references and case examples so as to ***contribute to classroom discussions/exercises*** and to supplementary instructor-led online discussions which will be conducted to facilitate students' learning. Tutorials will also be provided. As a means to validate or reinforce learning, students are expected to apply the concepts, principles, theories and methods covered in the subject to describe the current service models of their firms and to propose a new service innovation model and corresponding business/IT strategy for sustainable competitive advantage.

Teaching/Learning Methodologies	Intended subject learning outcomes to be assessed			
	a	b	c	d
Lecture	✓	✓		
Tutorial		✓	✓	✓
Case Studies	✓	✓		
Personal Learning Environment & Network (PLE&N)	✓	✓	✓	✓

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			
		a	b	c	d
1. Student's proposal for Assignment: research objectives, scope and rationale of proposal (item 3)	5%	✓	✓	✓	
2. Online discussions (on online papers/contents related to topics covered in lectures as relevant to real-world experiences in the students organizations)	10%	✓	✓	✓	✓
3. Assignment [Critical analysis of contemporary research publications on service innovation, and the student's organization's service model together with its existing strategy using the concepts, principles and theories covered in the subject and in the literature reviewed by the student.]	25%	✓	✓	✓	✓
4 Presentation of assignment report to class	5%	✓	✓	✓	✓
5. Examination (open book) on principles, theories and practices of knowledge-driven service innovation	55%	✓	✓	✓	✓
Total	100%				

<table>
<tr><td></td><td colspan="2">The subject is taught in block mode.

Continuous online discussions on selected topics throughout the lecture series.

Emphasis is placed on students' understanding of both the basic concepts of service innovation and how they may be appropriately applied to the students' organizations with relevant justifications and scientific arguments. To that end, students are encouraged to proactively contribute to class and online discussions/exercises to enhance their learning experience.

This in turn requires the students to demonstrate a sound understanding of their organizations' product/service businesses. The above assessment modes are appropriate because together they not only cater to the background and experience of the student, but also ensure the student, by attempting all the components successfully, will achieve the desired learning outcomes for the subject.</td></tr>
<tr><td rowspan="8">Student Study Effort Expected</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Face-to-face lectures/presentations</td><td>36 Hrs.</td></tr>
<tr><td>▪ Tutorials/workshops
1.5 hours per session x 2 session</td><td>3 Hrs.</td></tr>
<tr><td>Other student study effort (estimated):</td><td></td></tr>
<tr><td>▪ Study of online contents / journals</td><td>16 Hrs.</td></tr>
<tr><td>▪ Preparation and revision</td><td>40 Hrs.</td></tr>
<tr><td>▪ Assignment</td><td>30 Hrs.</td></tr>
<tr><td>Total student study effort:</td><td>125 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">Textbooks:

1. Chew, E. K. & Gottschalk, P. (2013), Knowledge-driven Service Innovation and Management, IGI Global Publishing.
2. Kaplan, R.S., & Norton, D.P. (2004). Strategy Maps. Boston, MA: Harvard Business School Press

References:

3. Alter, S. (2008), Service system fundamentals: work system, value chain and life cycle. IBM Systems Journal, 47(1), 71-86.</td></tr>
</table>

4. Aurich, J.C., Mannweiler, C. and Schweitzer**i** E. (2010), How to design and offer services successfully, *CIRP Journal of Manufacturing Science and Technology 2, 136–143*
5. Bask, A. H., Tinnila, M., and Rajahonka, M. (2008), Matching service strategies, business models and modular business processes, *Business Process Management Journal Vol. 16 No. 1, 153-180*
6. Gallouj, F. and Windrum, P. (2009), Services and services innovation, *Journal of Evolutionary Economics, 19:141–148*
7. Hung, R. Y-Y., Lien, B. Y-H., and McLean, G. H. (2009), Knowledge Management Initiatives, Organizational Process Alignment, Social Capital, and Dynamic Capabilities, *Advances in Developing Human Resources Vol. 11, No. 3, 320-333*
8. Moeller, S. (2008), Customer Integration—A Key to an Implementation Perspective of Service Provision, *Journal of Service Research Volume 11 Number 2, 197-210*
9. Paswan, D. D'Souza, and Zolfagharian, M. A. (2009), Towards a Contextually Anchored Service Innovation Typology, *Decision Sciences, Vol 40, No. 3, 513-540*
10. Vargo, S. L. and Lusch, R. F. (2008), From goods to service(s): Divergences and convergences of logics, *Industrial Marketing Management 37, 254–259*

Subject Code	ISE5603
Subject Title	Enterprise Knowledge Portals
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Nil
Objectives	This subject provides students with the ability to 1. identify the role of different types of portals to support information management, process management, collaborations, and transaction processing in the workplace, as well as in the Internet world; 2. develop a roadmap for the introduction of a portal, choose the necessary functions and technologies, as well as define metrics for measuring adoption by users, together with change management required to support the deployment.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. define, identify, and justify the role of portals in an organizational context; b. define criteria to evaluate and measure the adoption and ongoing success of a portal application; c. critically examine the various options to introduce an enterprise portal; d. deal with the common threats that can occur in every stage of a portal journey; e. identify opportunities to leverage a portal for further enterprise transformation.
Subject Synopsis/ Indicative Syllabus	1. <u>Enterprise Knowledge Portals (EKP)</u>

<table>
<tr><td></td><td>This subject introduces students to the concept of portals for enterprise and personal use. Topics covered include taxonomy of portals, portal architecture, framework for selecting and implementing portal functions, portal content management, and the impact of emerging technologies on the evolution of portals. Particular emphasis is placed on the role of enterprise and personal portals in support knowledge-based activities in agile and virtual enterprises.
2. <u>Case Studies</u>
Lessons learned from various large-scale portal implementations are examined and either live or pre-recorded sessions of portals used in large multi-national organizations are conducted.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Interactive and multimedia online learning materials are available to students for self-directed learning. Online quizzes, discussion forums, email support, and supplementary face-to-face instructor-led seminars are available to facilitate students' learning.

<table>
<tr><td rowspan="2">Teaching/Learning Methodologies</td><td colspan="5">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td></tr>
<tr><td>Lecture</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Tutorial</td><td>✓</td><td>✓</td><td>✓</td><td></td><td>✓</td></tr>
<tr><td>Case studies</td><td>✓</td><td>✓</td><td>✓</td><td></td><td>✓</td></tr>
<tr><td>Personal Learning Environment and Network (PLEN)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
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</td></tr>
<tr><td>Assessment</td><td></td></tr>
</table>

Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed				
		a	b	c	d	e
1. Tutorial /workshop exercise	10%	✓		✓		
2. Bulletin board	10%	✓	✓	✓	✓	✓
3. Assignment	20%	✓	✓	✓	✓	✓
4. Project Proposal	10%	✓	✓	✓	✓	✓
5. Final Report	20%	✓	✓	✓	✓	✓
6. Presentation	10%	✓	✓	✓	✓	✓
7. Test	20%	✓	✓	✓	✓	
Total	100%					

The adopted combination of assessment methods is appropriate because through all these components, the learners' ability in the subject topics will be applied. Examples are compiling an assignment on a project-related topic, contributing discussions in a bulletin board, and accomplishing a project covering many areas and issues that may occur in different stages of a portal.

Student Study Effort Expected

(Block Mode / Evening Mode)

Class contact:	
▪ Face-to-face lectures/seminars/presentations/test 5.5 hours per week x 4 weeks	22 Hrs.
▪ Guest lectures/seminar 2 hours per week x 2 weeks	4 Hrs.
▪ Bulletin Board participation 1 hour per week x 13 weeks	13 Hrs.
Other student study effort	
▪ Study of online content	26 Hrs.

	2 hours per week x 13 weeks	
	▪ Preparation and revision	26 Hrs.
	▪ Assignments and projects	26 Hrs.
	Total student study effort	117 Hrs.
Reading List and References	1. Terra, J, C and Gordon, C. 2003, *Realizing the Promise of Corporate Portals: Leveraging Knowledge for Business Success*, Butterworth-Heinemann, Amsterdam 2. Firestone, J, M. 2003, *Enterprise Information Portals and Knowledge Management*, Butterworth-Heinemann, Amsterdam 3. Collins, H. 2003, *Enterprise Knowledge Portals*, AMACOM, New York	

Subject Code	ISE5605
Subject Title	Knowledge Communities
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Pre-requisite: ISE542 Managing Knowledge
Objectives	This subject aims to provide students the opportunity to 1. understand the various types and purposes of knowledge communities; 2. appreciate the power of knowledge communities in knowledge creation, retention, and sharing; 3. understand the various types of tools and technologies that support different stages of an online community; 4. learn about various models for assessing the maturity and value of a community; 5. gain in-depth appreciation of some real-world successful private and public online communities; 6. learn about strategies for development, sustainment, and change management in support of online communities.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. define, identify, and justify the role of communities in an organizational context; b. define criteria to evaluate and measure the ongoing success of an online community; c. critically examine the various ways to introduce, sustain, and resurrect a knowledge community; d. deal with the common threats that occur in every stage of a community's life cycle.

Subject Synopsis/ Indicative Syllabus	This subject introduces students to the concept of knowledge communities. In particular, this course critically examines various types and models of communities (e.g., project communities, communities of interest, community of practice, knowledge and know-how networks, and personal/social networks). Emphasis is on the formation, evolution, and governance of communities, as well as the tools and technologies to support the operation and growth of communities at different stages of its lifespan. Through a balanced mix of theories and practical case studies, by the end of the module, students are expected to have a strong mastery of the various types of communities and their respective roles and contributions in an organization and/or the marketplace. Students are able to demonstrate how to introduce knowledge community or communities into their organization's knowledge management and/or learning strategy. Methods on how to measure/appraise the value (both tangible and intangible) of communities are also covered. Students are also expected to demonstrate how to develop a business case for launching a community, critically assess the ongoing value of a community, and use appropriate tools to gauge and report on the relationships in social/personal networks.
Teaching/Learning Methodology	Interactive and multimedia online learning materials are available to students for self-directed learning. Online quizzes, discussion forums, email support, and supplementary face-to-face instructor-led seminars are available to facilitate students' learning. There is also the requirement to tackle a project in which the students need to demonstrate their learned skills and techniques to help in launching or resolving some critical issues associated with a community.

Teaching/Learning Methodologies	Intended subject learning outcomes to be assessed			
	a	b	c	d
Lecture	✓	✓	✓	✓
Tutorial	✓	✓	✓	✓
Case studies	✓	✓	✓	✓
Personal Learning Environment and Network (PLEN)	✓	✓	✓	✓

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			
		a	b	c	d
1. Tutorial exercise	20%			✓	
2. Workshop exercise	20%	✓		✓	
3. Bulletin Board	10%	✓	✓	✓	✓
4. Guided project	50%	✓	✓	✓	✓
Total	100%				

The tutorial and workshop exercises expose students to several of the fundamental issues common to most communities. They need to conduct background research as well as articulate the learned concepts to tackle these exercises. Throughout the semester, the bulletin board requires the student to discuss and offer opinions on many of the issues and topics that are brought up in various lessons. The guided project is a major piece of work that requires a student to articulate many of the concepts learned in the subject and apply them in a practical situation, by either launching a community or providing a critical view of an existing or dormant community.

<table>
<tr><td rowspan="8">Student Study Effort Expected
(Block Mode / Evening Mode)</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Face-to-face lectures/seminars/presentations
5.5 hours per week x 4 weeks</td><td>22 Hrs.</td></tr>
<tr><td>▪ Guest lectures/seminar
2 hours per week x 2 weeks</td><td>4 Hrs.</td></tr>
<tr><td>▪ Bulletin Board participation
1 hour per week x 13 weeks</td><td>13 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Preparation and revision</td><td>30 Hrs.</td></tr>
<tr><td>▪ Assignments and projects</td><td>40 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>109 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">Textbook:
Wenger, E, McDermott, R, Snyder, W, M. (2002), Cultivating Communities of Practice, Harvard Business School Press
References:
1. Hildreth, P. and Kimble, C. (2004), “Knowledge Networks: Innovating through Communities of Practice”, Idea Group, Hershey.
2. Saint-Onge, H, Wallace, D. (2003), Leveraging Communities of Practice for Strategic Advantage, Butterworth-Heinemann
3. Wenger, E., White, N., & Smith, J. D. (2009). Digital habitats: Stewarding technology for communities. CPsquare.</td></tr>
</table>

Subject Code	ISE5606
Subject Title	Business Intelligence and Data Mining
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Students must have basic mathematical skills.
Objectives	This subject enables students to: 1. master the basics in business intelligence (BI), data mining (DM), and knowledge discovery in databases; 2. learn the role that software tools/applications play in BI and DM, with emphasis on industrial case studies and practical applications; 3. Have an overall understanding of the major issues and applications in business intelligence and data mining, including a basic grasp of the algorithm classes and best practices for building successful BI projects.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. examine the concepts of data warehousing and OLAP; b. apply the concepts of BI and DM techniques for clustering, association, and classification; c. understand the operation procedures of BI projects in an organization; d. select appropriate DM tools and methods to manipulate and achieve data; e. apply DM concepts for formulating business strategies and programs to enhance business intelligence.
Subject Synopsis/ Indicative Syllabus	The syllabi of this subject are: 1. <u>Business Intelligence (BI)</u> Introduction to BI, BI concepts, and methods; Nature and representation of data; Building data warehouses; Data marts; OLAP; Concepts in data analysis, reporting, and analytics; Defining

BI objectives; Maintenance of data infrastructure; Successful design methodology; Measuring and refining success.

2. Data Mining and Knowledge Discovery in Databases (DM and KDD)

Introduction to data mining; Data mining algorithms; Predictive methods; Descriptive methods; Scalability considerations; Integration with DBMS and data warehouses; Lifecycle of data mining; Embedding data mining in business solutions; Example applications; Challenges and special considerations.

3. Case Studies

Case studies drawn from commercial, industrial, and research applications. These include eBusiness applications, cross-sell and up-sell methods; Fraud detection; Market prediction and forecasting.

In this subject, the techniques and methods covered are applied to both intra-organizational data and market data (e.g., industry statistics, trends, and competitive information). Enterprise as well as market-oriented applications are covered.

Teaching/Learning Methodology

Learning is facilitated through face to face lecturing and guided learning. Face-to-face seminars/labs are available to facilitate students' learning. The integrated application-oriented mini-project is designed to help students acquire the knowledge of understanding and using different BI and DM principles, techniques, and tools to solve a real problem through team work.

Teaching/Learning Methodologies	Intended subject learning outcomes to be assessed				
	a	b	c	d	e
Lecture	✓	✓		✓	✓
Tutorial/Labs		✓			
Projects			✓	✓	✓
Case Studies	✓		✓		

<table>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="5">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td></tr>
<tr><td>1. Assignment/ Test</td><td>25%</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td></tr>
<tr><td>2. Mini-project/ project presentation</td><td>20 %</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>3. Exam</td><td>55 %</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="5"></td></tr>
</table>
</td></tr>
<tr><td>Student Study Effort Expected
(Block Mode/ Evening Mode)</td><td>
<table>
<tr><td>Class contact:</td><td></td></tr>
<tr><td>▪ Lectures/ seminars/ labs</td><td>26 Hrs.</td></tr>
<tr><td>▪ Presentation/ test/case studies/project discussion</td><td>13 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Study of materials for exercises/assignments</td><td>28 Hrs.</td></tr>
<tr><td>▪ Preparation and revision for in class test</td><td>28 Hrs.</td></tr>
<tr><td>▪ Project and presentation preparation</td><td>28 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>123 Hrs.</td></tr>
</table>
</td></tr>
<tr><td>Reading List and References</td><td>
1. Jiawei Han, Micheline Kamber and Jian Pei, 2012, Data Mining: Concepts and Techniques, 3rd Edition, Morgan Kaufmann
2. Jerzy Surma, 2011, Business Intelligence: Making Decisions through Data Analytics, New York, N.Y., Business Expert Press
3. Pang-Ning Tan, 2006, Introduction to Data Mining, Boston : Pearson Addison Wesley
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Subject Code	ISE5607
Subject Title	E-Learning Technologies and Practices
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Completing the subjects ISE542 Managing Knowledge **or** ISE543 Methods and Tools for Knowledge Management Systems **is required**
Objectives	This subject provides students with the knowledge to 1. understand the prevalent models of electronic learning, development of learning strategies, and construct business cases; 2. appreciate the general and niche applications of electronic learning; 3. explore the existing and emerging technologies, systems and practices that underpin/impact the formulation and deployment of electronic learning and assess their implications.
Intended Learning Outcomes	Upon completion of the subject, students will be a. equipped with capabilities and understanding of e-learning concepts and models to plan for e-learning courses, representations, interactions, and technologies; b. equipped with evaluation and deployment capabilities and understanding of specific emerging e-learning technologies, systems and practices; c. equipped with strategic and management capabilities and insights in applying and sustaining e-learning within the enterprise; d. able to facilitate the personal mastery of being an e-learning practitioner with continuous awareness on e-learning environment and issues, and proficiency in technologies, systems, practices, projects, and other e-learning efforts.
Subject Synopsis/ Indicative Syllabus	1. <u>E-Learning Strategic Issues</u> E-learning environment and rationale; Policy issues; Stakeholder requirements; Business model and process needs; Risks; Learning Scenarios. 2. <u>E-Learning Models and Technologies</u>

<table>
<tr><td></td><td>Blended learning; Digital libraries; Knowledge elicitation; Asynchronous/Synchronous learning; E-learning technology platform; Learning management systems.

3. <u>E-Learning Course Delivery</u>

Course components; Learning objectives; Instructional design; Internet; Human-computer interaction; Intelligent systems.

4. <u>Project Management</u>

Project planning and control; Roles and responsibilities; Procurement; Evaluation model and metrics; Evaluation methods.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Face-to-face and online lectures/seminars, discussion forums, email support, and are blended to facilitate students' learning. Interactive and multimedia online learning materials are available to students for self-directed learning.

<table>
<tr><td rowspan="2">Teaching/Learning Methodologies</td><td colspan="4">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>Lecture/Seminar</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Tutorial</td><td>✓</td><td></td><td>✓</td><td>✓</td></tr>
<tr><td>Case study</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Discussion Forum / e-learning</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
</td></tr>
</table>

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			
		a	b	c	d
1. Assignments	26%	✓	✓	✓	✓
2. Bulletin board	9%		✓	✓	✓
3. Case study	10%	✓	✓	✓	✓
4. Examination	55%	✓	✓	✓	✓
Total	100%				

Assignments and case study are aimed at assessing students' capabilities and understanding of e-learning technologies and practices. The bulletin board also inspires insights on applying and sustaining e-learning within the enterprise. The examination is aimed at assessing the knowledge and skills gained by the students.

Student Study Effort Expected (Block Mode / Evening Mode)

Class contact:	
▪ Face-to-face lectures / presentations 3 hours per week x 8 weeks	24 Hrs.
▪ On-line tutorial / seminar	3 Hrs.
▪ Bulletin board	12 Hrs.
Other student study effort:	
▪ Studying and self-learning	36 Hrs.
▪ Assignment, case study report writing	30 Hrs.
Total student study effort	105 Hrs.

Reading List and References	1. Rosenberg, M, J. 2001, *E-learning: Strategies for Delivering Knowledge in the Digital Age*, Mc GrawHill 2. Carliner and Shank 2008, *The E-Learning Handbook: Past Promises, Present Challenges*, Pfeiffer 3. Piskurich, G, M. 2003, *The AMA Handbook of E-Learning: Effective Design, Implementation Technology Solutions*, American Management Association, AMACOM 4. Bonk, C, J and Graham, C, R. 2005, *Handbook of Blended Learning, Global Perspectives, Local Design*, Pfeiffer

Subject Code	ISE518
Subject Title	Workflow Design and Management
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	No prerequisite but some background knowledge on workflow and management is preferred.
Objectives	This subject provides students with 1. the knowledge to analyze and redesign existing systems, and to design new work systems in various industrial and commercial environments in order to improve productivity; 2. the knowledge to apply relevant techniques and problem-solving methodologies so as to enable them to manage projects concerned with productivity improvement successfully; 3. the knowledge and techniques to analyze a new or existing layout in order to achieve improvement; 4. the ability to recognize the need for, and problems associated with, change in organizations.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. examine and measure productivity in a typical manufacturing or service organization in order to improve it; b. identify the differences between cause and effect in problem solving and apply suitable problem-solving techniques using both analytical and creative (or lateral) thinking; c. examine an existing work situation and conduct a work improvement program in a manufacturing or service organization in order to identify low productivity; d. recognize the objectives of facility location and layout planning in both manufacturing and service organizations to evaluate different locations, the effectiveness of different layouts, and use suitable techniques for improvement; e. understand the need for change in organizations and be able to apply appropriate strategies to affect change in an appropriate manner.

Subject Synopsis/ Indicative Syllabus	1. Productivity The importance of productivity and its measurement; Productivity measures in organizations; Total and partial productivity measures, their advantages and limitations; Causes of low productivity in organizations; Types of productivity improvement programs and how to select them. 2. Problem Solving General problem-solving skills; Recognizing and defining problems; Use and applications of analytical and creative thinking; Barriers to creativity; Methods of stimulating creative thinking, such as attribute listing, analogy, brainstorming, etc. 3. Work Improvement Analysis and improvement of work methods, systems, and procedures; Selecting areas appropriate for work improvement; Choosing areas for improvement, recording the facts, examining, and developing improvements; Issues of implementation, and continuous improvement; Application to the analysis and improvement of work systems; An appreciation of Business Process Re-engineering (BPR) and continuous improvement, as approaches to improving work systems in organizations. 4. Location and Facility Planning Factors affecting the choice of location and the evaluation of alternatives; Types of layouts, including an appreciation of the systematic layout planning approach; Use of computers in layout planning; Types of flow lines, and line balancing issues. 5. Management of Change Introduction to managing changes in organizations; Problems associated with change and the effects that change has on the management and personnel concerned; Organizing for change and overcoming resistance to change.
Teaching/Learning Methodology	Emphasis is placed on a student-centered learning approach through a variety of case studies taken from realistic industrial and commercial situations. These case studies are often used to deliver the subject material in a scenario of problem-based learning that will integrate topics contained in the syllabus so as to make the subject material more interesting and meaningful to students.

Typical Case Studies

- Measuring productivity in an engineering company
- Selecting areas for methods improvement in a small batch manufacturing company
- Designing a flow-line to assemble a typical consumer product
- Developing a home delivery service for a supermarket chain
- Locating a centralized processing plant for a fast-food operation
- Creating a layout of a manufacturing department that integrates both production equipment and office accommodation
- Managing change in a commercial enterprise

Teaching/Learning Methodologies	Intended subject learning outcomes to be assessed				
	a	b	c	d	e
Lecture	✓	✓	✓	✓	✓
Tutorial		✓		✓	✓
Project/case studies	✓	✓	✓	✓	✓

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% Weighting	Intended subject learning outcomes to be assessed				
		a	b	c	d	e
1. Continuous assessment	45%	✓	✓	✓	✓	✓
2. Examination (open book)	55%	✓		✓	✓	✓
Total	100 %					

<table>
<tr><td></td><td colspan="2">Continuous assessment is comprised of case studies with individual and group components. Note: Assessment of Intended Learning Outcomes (ILOs) may vary from year to year in terms of whether they are by continuous assessment or by examination. However, all ILOs are covered each year. Moreover, all assessment components require students to apply what they have learned to realistic work applications that often integrate the various topics covered. The examination (open-book format) is also applications oriented.</td></tr>
<tr><td rowspan="8">Student Study Effort Expected</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Lecture 3 hours/week for 7 weeks</td><td>21 Hrs.</td></tr>
<tr><td>▪ Tutorial/case study 3 hours/week for 4 weeks</td><td>12 Hrs.</td></tr>
<tr><td>▪ Laboratory 3 hours/week for 2 weeks</td><td>6 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Studying and self-learning</td><td>40 Hrs.</td></tr>
<tr><td>▪ Case studies and report writing</td><td>26 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>105 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">1. Adedeji B. Badiru and Olufemi A. Omitaomu 2011, Handbook on Industrial Engineering equations, formulas and calculations, CRC Press
2. Tristan Boutros and Tim Purdie 2014, The Process Improvement Handbook: a Blueprint for Managing Change and Increasing Organizational Performance, McGraw-Hill Education
3. Layna Fischer 2005, Workflow Handbook 2005, Future Strategies
4. Imre Hegedus 2012, Business Process Management: Strategies to Improve Performance, Ark Group
5. Ricky W. Griffin 2013, Management, South-Western/Cengage Learning
6. James A. Tompkins, John A. White, Yavuz A. Bozer and J.M.A. Tanchoco 2010, Facilities Planning, 4th, Wiley
7. Alberto Garcia-Diaz and J. MacGregor Smith 2008, Facilities Planning and Design, Pearson/Prentice Hall</td></tr>
</table>

	8. Gavriel Salvendy 2007, *Handbook of Industrial Engineering*, John Wiley & Sons, Third Edition Published Online 9. Raybould, E, R and Minter, A, L. 1992, *Problem Solving for Management*, Institute of Management Services, Latest Edition 10. Tomkins, White, Bozer, Frazelle, Tanchoo, Trevino. 2010, *Facilities Planning*, 4th edn, John Wiley & Sons Inc. 11. International Labour Office 1992, *Introduction to Work Study*, 4th edn 12. Lawrence, P (Editor) 1997, *Workflow Handbook*, John Wiley & Son, Chichester 13. Stefan Joablonski and Christoph Bussler 1996, *Workflow Management - Modeling Concepts, Architecture and Implementation*, International Thomson Computer Press 14. Poyssick, G and Hannaford, S. 1996, *Workflow Reengineering*, Adobe Press, Mountain View, California

Subject Code	ISE520
Subject Title	Manufacturing Strategy
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Nil
Objectives	This subject provides students with 1. an understanding of the concept and criticalness of manufacturing strategy for industrial competitiveness; 2. the ability to apply principles and techniques in the identification, formulation, and implementation of manufacturing strategy for greater competitiveness in the societal and global context.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. understand the concept and the importance of manufacturing strategy for industrial enterprise competitiveness; b. apply the appropriate techniques in the analysis and evaluation of company's opportunities for enhancing competitiveness in the local, regional and global context; c. identify, formulate and implement strategies for manufacturing and therefore enterprise competitiveness.
Subject Synopsis/ Indicative Syllabus	1. <u>World-Class Manufacturing</u> Basic principles of manufacturing strategy. Relationship of manufacturing strategy with marketing and corporate strategies. Trade-offs in manufacturing objectives. Creating competitive advantages through manufacturing strategy. Competitiveness models. Formulation and implementation of manufacturing strategy. 2. <u>Manufacturing Decisions</u> Production system design. Market-led versus technology-led approaches. Product differentiation. Mass customisation. Focused manufacturing. Economics of integration. Continuous improvement.

<table>
<tr><td></td><td>3. <u>Performance Measurement Framework for Analysing Manufacturing Effectiveness</u>

Measurement tools and techniques. Cost accounting-based measurement and non-financial performance. World-class manufacturing and bench marking.

4. <u>Manufacturing Strategy in the Global Context</u>

Global management paradigm and the extended enterprise. Internationalisation strategies and core competencies of cooperation. Alliance advantages and technology transfer.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>A mixture of lectures, tutorial exercises, laboratory exercises, and case studies is used to deliver the various topics in this subject for the attainment of the learning outcomes. Some material is covered using a problem-based format where this advances the learning objectives. Other material is covered through directed study to enhance the students' "learning to learn" ability. Case studies are used to integrate these topics and demonstrate to students how the various techniques are interrelated and applied in real-life situations. The cross fertilisation of the ideas and experiences of students regarding manufacturing strategy is encouraged through class discussions and presentations, and forms an important component in the teaching/learning process of this subject.

<table>
<tr><td>Teaching/Learning Methodologies</td><td colspan="3">Intended Subject Learning Outcomes to be assessed</td></tr>
<tr><td></td><td>a</td><td>b</td><td>c</td></tr>
<tr><td>Lecture</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Tutorial</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Case studies</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
</td></tr>
</table>

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed		
		a	b	c
1. Assignments/Case studies/Presentations	30%	✓	✓	✓
2. Laboratory work	10%			✓
3. Final examination	60%	✓	✓	✓
Total	100%			

The assignments, case studies, and presentations are used to assess students' ability to synthesise and apply the concepts and skills learnt in analysing and solving problems.

The laboratory work assesses students' ability to practice the techniques through tackling simulated real-life problem scenarios related to the exercise of manufacturing strategy.

The final examination assesses students' understanding of the concepts and skills in analysing and solving problems related to the subject.

Student Study Effort Expected

Class contact:	
▪ Lectures 2 hours/week for 13weeks	26 Hrs.
▪ Tutorials/Case studies/Laboratory work 1 hour/week for 13weeks	13 Hrs.
Other student study effort:	
▪ Study and self-learning	48 Hrs.
▪ Assignment and report writing	28 Hrs.
Total student study effort	115 Hrs.

Reading List and References	1. Marcus, A A. 2011, *Management strategy: achieving sustained competitive advantage***,** New York : McGraw-Hill/Irwin. 2. Thompson, A A, Strickland, A J Jr, Gamble, J E. 2007, *Crafting and executing strategy : text and readings,* New York : McGraw-Hill/Irwin, c2010. 3. Slack, N, Lewis, M. 2011, *Operations strategy, 3rd ed.*, Harlow, England ; New York : Financial Times/Prentice Hall. 4. Water, D. 2006, *Operations Strategy*, London: Thomson Learning 5. Hitt, M A, Ireland, R D & Hoskisson, R E. 2013, *Strategic Management: Competitiveness and Globalization: Concepts & Cases, 10th Edn.,* Mason, Ohio: South-Western Cengage Learning 6. Van Mieghem, J A. 2008, Operations S*trategy: Principles and Practice*, Belmont, Mass: Dynamic Ideas 7. Miltenburg, J. 2005, *Manufacturing Strategy: How to Formulate and Implement a Winning Plan*, New York: Productivity Press 8. Hussey, D E. 1998, *Strategic Management: from Theory to Implementation*, 4th edn, Oxford: Butterworth-Heinemann 9. Hill, T. 1993, *Manufacturing Strategy*, 2nd edn, The MacMillan Press 10. Hill, T. 2000, *Manufacturing Strategy: Text and Case*, Boston: Irwin 11. Hayes, R H & Wheelwright, S C. 1984, *Restoring Competitive Edge, Competing through Manufacturing*, John Wiley & Son 12. International Journal of Operations and Production Management 13. Journal of Business Strategy 14. Harvard Business Review

Subject Code	ISE526
Subject Title	Enterprise Resources Planning
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Nil
Objectives	This subject provides students with 1. the basic concepts of ERP systems for manufacturing or service companies, and the differences among MRP, MRP II, and ERP systems; 2. thinking in ERP systems: the principles of ERP systems, their major components, and the relationships among these components; 3. in-depth knowledge of major ERP components, including material requirements planning, master production scheduling, and capacity requirements planning; 4. knowledge of typical ERP systems, and the advantages and limitations of implementing such systems.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. examine systematically the planning mechanisms in an enterprise, and identify all components in an ERP system and the relationships among the components; b. understand production planning in an ERP system, and systematically develop plans for an enterprise; c. use methods to determine the correct purchasing quantity and right time to buy an item, and apply these methods to material management; d. understand the difficulties of a manufacturing execution system, select a suitable performance measure for different objectives, and apply priority rules to shop floor control.
Subject Synopsis/ Indicative Syllabus	1. <u>Introduction</u> Concept of ERP, brief history of ERP systems, major components of

<table>
<tr><td></td><td>ERP systems and their functions. Basic differences between manufacturing and services.
2. <u>Production Planning</u>
Master production scheduling (MPS), rough-cut capacity planning, capacity requirements planning.
3. <u>Material Requirements Planning (MRP)</u>
Concept, product structure, and bill of materials (BOM), MRP logic, lot-sizing and capacity considerations.
4. <u>Manufacturing Execution Systems (MES)</u>
Shop floor control, job shop scheduling and priority rules, flow shop scheduling.
5. <u>Operation of an ERP system</u>
The relationships among different ERP modules, available-to-promise (ATP), time bucket.
6. <u>Inventory Management</u>
Benefit and cost considerations in inventory management, basic models and their assumptions.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>A mixture of lectures, exercises, laboratories, and case studies is used to deliver the various topics in this subject. Some material is covered using a problem-based format where this advances the learning objectives. Other material is covered through directed study to enhance students' "learning to learn" ability. Some case studies, largely based on consultancy experience, are used to integrate these topics and demonstrate to students how the various techniques are interrelated and can be applied in real-life situations.
<table>
<tr><td rowspan="2">Teaching/Learning Methodologies</td><td colspan="4">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>Lecture</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Seminars</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Project/case studies</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
</td></tr>
</table>

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			
		a	b	c	d
1. Exercises	20%	✓	✓		
2. Project report	15%	✓	✓	✓	✓
3. Oral presentation	10%	✓	✓	✓	✓
4. Lab work and report	25%		✓	✓	
5. Test	30%	✓	✓	✓	✓
Total	100%				

Continuous assessment comprises tasks with individual and group components, usually several exercises, a mini-project with an oral presentation and written report, laboratory work, and a test. All assessment components require students to apply and demonstrate what they have learnt in the course to address issues related to enterprise resource planning.

Student Study Effort Expected

Class contact:	
▪ Lectures	27 Hrs.
▪ Laboratories, Presentation, Test	12 Hrs.
Other student study effort:	
▪ Preparation and review, Self-study	63 Hrs.
▪ Report writing	18 Hrs.
Total student study effort	120 Hrs.

Reading List and References

1. Monk, E. F., Wagner, B. J. 2009, *Concepts in Enterprise Resource Planning*, 3rd edn, Course Technology Cengage Learning
2. Sumner, M. 2005, *Enterprise Resource Planning*, Pearson Education, Inc.

	3. Vollmann, T. E., Berry, W. L. and Whybark, D. C. 1992, *Manufacturing Planning and Control Systems*, 3rd edn, Irwin 4. Plossl, G. W. 1985, *Production and Inventory Control: Principles and Techniques*, 2nd edn, Prentice Hall 5. Wallace, T. F., Kremzar, M. H. 2001, *ERP: Making It Happen*, John Wiley 6. Ferran, C., and Salim, R. 2008, *Enterprise Resource Planning for Global Economics: Managerial Issues and Challenges*, Information Science References 7. Shtub, A. 1999, *Enterprise Resource Planning (ERP): the Dynamics of Operations Management*, Kluwer Academic Publishers

Subject Code	ISE553
Subject Title	Managing Six Sigma
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Students must be aligned with an organisation to complete a mini-project with real objectives and data collection and analysis. Experience in QC, QA, quality management, process control, or other operational activities is desirable.
Objectives	This subject will provide students with 1. the basic Six Sigma skills for identifying and defining improvement projects that will have significant positive impacts on sustainable business performance; 2. skills in the measurement and analysis of process data and a basic understanding of the techniques and importance of process modelling in manufacturing and service industries to improve the existing processes; 3. the ability to use Six Sigma practices and techniques so that they can effectively support the implementation of a company-wide improvement programme; 4. knowledge of the alternative and latest Six Sigma methodologies, to enable them to evaluate and determine the best choices for a company.

Intended Learning Outcomes	Upon completion of the subject, students will be able to b. examine the existing work situation in a manufacturing or service organisation to identify Six Sigma projects that will significantly improve customer satisfaction, and quality and productivity; c. apply appropriate Six Sigma techniques to improve existing or design new work methods and procedures for a business process; d. select appropriate Six Sigma measurement and data analysis techniques and apply them to improve the value of products and services delivered to customers while enhancing the organisation's financial performance; e. apply appropriate Six Sigma techniques to support the implementation of a company-wide improvement programme; f. understand the concepts and applicability of alternative Six Sigma methodologies with a view to determining the appropriate one for application in specific settings.
Subject Synopsis/ Indicative Syllabus	1. <u>Background and Fundamentals</u> What Six Sigma is; Six Sigma goals and metrics including customer satisfaction, process efficiency, and time-to-market; Six Sigma applications; models of improvement: DMAIC, DFSS. 2. <u>Implementation</u> Six Sigma leadership; enterprise-wide deployment; business process management; project charter; project selection and evaluation; team work. 3. <u>Techniques</u> Critical to quality (CTQ); objective function; quality function deployment (QFD); process mapping; capability studies and statistical process control; multivariate analysis; failure mode, effects, and criticality analysis (FMECA); visual management brainstorming tools. 4. <u>Latest Advances</u> Lean Six Sigma; Kaizen events; conquering complexity; beyond Six Sigma.

Teaching/Learning Methodology

A mixture of lectures, tutorial exercises, and case studies is used to deliver the various topics in this subject. Some material is covered using a problem-based format where this advances the learning objectives. Other material is covered through directed study to enhance students' self-learning ability. External speakers are invited to deliver some case studies, largely based on consultancy experience, to integrate the topics covered and demonstrate how the various tools are applied in real-life situations.

Teaching/Learning Methodologies	Intended Subject Learning Outcomes to be assessed				
	a	b	c	d	e
Lecture	✓	✓	✓	✓	✓
Tutorial	✓	✓	✓	✓	✓
Seminar	✓	✓	✓	✓	✓
Case study	✓	✓	✓	✓	

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed				
		a	b	c	d	e
1. Mini-project	60%	✓	✓	✓	✓	✓
2. Case studies	15%	✓	✓	✓	✓	
3. Test	25%	✓	✓	✓	✓	✓
Total	100%					

Assessment comprises tasks with individual and group components, usually one test, group case studies, and one individual mini-project with an oral presentation and written report. All assessment components require students to apply what they have learnt to address real-world issues.

Student Study Effort Expected	Class contact:	
	▪ Lectures/Seminars (block mode)	28 Hrs.
	▪ Tutorials/Case studies	6 Hrs.
	▪ Presentation and peer review	5 Hrs.
	Other student study effort:	
	▪ Studying and self-learning; test preparation	40 Hrs.
	▪ Mini-project work; case study report writing	40 Hrs.
	Total student study effort	119 Hrs.
Reading List and References	1. Pende, Peter S., Neuman, Robert P. and Cavanagh, Roland R. 2000, *The Six Sigma Way: How GE, Motorola, and Other Top Companies are Honing their Performance*, McGraw Hill 2. Bill Wortman 2007, *Six Sigma Black Belt Primer*, Quality Council of Indiana 3. Devane, Tom 2004, *Integrating Lean Six Sigma and High Performance Organizations*, Pfeiffer Publishing 4. Eckes, George 2001, *Making Six Sigma Last: Managing the Balance between Cultural and Technical Change*, Wiley 5. *Six Sigma Forum Magazine*, ASQ	

Subject Code	ISE 5018
Subject Title	Intellectual Property Management and Strategies
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	NIL
Objectives	The subject aims to provide an overview of methods and approaches to manage intellectual property as strategic resources for enhancing the competitiveness for organizations. Upon completion of this subject, students should be able to accomplish the following objectives: 4. Understanding, defining and differentiating different types of intellectual properties (IPs) and their roles in contributing to organizational competitiveness 5. Understanding the Framework of Strategic Management of Intellectual Property (IP). 6. Appreciating and appraising different IP management (IPM) approaches and describing how pioneering firms initiate, implement and manage IPM programs, 7. Explaining how to derive value from IP and leverage its value in new product and service development 8. Exposing to the Legal management of IP and understanding of real life practice of IPM.
Intended Learning Outcomes	Upon completion of the subject, students will be able to : e. identify different types of Intellectual Properties (IPs), the right of ownership, scope of protection as well as the ways to create and to extract value from IP

	f. recognize the crucial role of IP in organizations of different industrial sectors for the purposes of product and technology development g. identify activities and constitute IP infringements and the remedies available to the IP owner and describe the precautious steps to be taken to prevent infringement of proprietary rights in products and technology development h. Be familiar with the processes of Intellectual Property Management (IPM) and various approaches for IPM and conducting IP and IPM auditing and explain how IP can be managed as a strategic resource and suggest IPM strategy.
Subject Synopsis/ Indicative Syllabus	The subject shows the critical important of various IP management activities and approaches to leverage the value of the IP for organization success. The following topics are covered; <u>Basic Concepts of IPs</u> Types of Intellectual Properties (IPs), the right of ownership and scope of protection, Value creation and value extraction for IPs, Legal Aspect of IP: Application, Appropriation, Infringement & Design Around, Licensing <u>IP Management Strategies and Implementation</u> Overview of IP Management & Strategy, IP Management Audit, Patent Portfolio & Patent Intelligence, Technology Strategy & Patent Analysis, Patent Dispute Management & Strategy, Co-opetition & IP Strategy IP Strategy & Open Business Model, IP Valuation, Royalty & Damage <u>Case Studies</u> Case Studies are drawn from commercial, industrial, legal and technological aspects for product and technology development

Teaching/Learning Methodology

As shown in Table 1, this subject is offered in block mode format on weekends, usually spread over a month. A mixture of lectures, tutorial exercises, and case studies will be used to deliver the various topics in this subject. Some of which will be covered in a problem-based format where this enhances the learning objectives. Others will be delivered directly through directed study in order to enhance the students' ability of "learning to learn". A mini-project will be used to integrate these topics and the students will demonstrate how to apply various techniques are inter-related and how they apply in real life situations. Cross fertilization of ideas and experiences of students through discussions and presentations are highly encouraged.

Table 1

Teaching/Learning Methodology	Intended subject learning outcomes				
	a	b	c	d	
1. Lectures/Guest lecture	√	√	√	√	
2. In-class activities	√	√	√		
3. Laboratory				√	
4. Case studies	√	√	√		
5. Mini-project	√	√	√	√	

Assessment Methods in Alignment with Intended Learning Outcomes

As shown in Table 2, this is a 100% continuous assessment subject which is comprised of assignments with individual and group assignments, mini-project, a short quiz and an open-book test. All assessment components will require students to apply what they have learnt to realistic work applications.

To reflect what the student's learning for topics in learning outcomes (c) and (d), an individual assignment is provided which allows the students to apply the theory and concepts in IPM to address real life problems.

The group assignment aims to allow the students to prepare for a proposal for the mini-project through the identification of the IPs and IP management problems in organizations (Learning Outcome (a)) and develop their skill to formulate a plan to address the problems (Learning Outcome (d)). The short quiz aims to assess the understanding of the students for the topics in learning outcomes (a) and (b).

The students are required to present the results and write a report for their mini-project which allow the students to integrate and apply the concept, theory,

methods and approaches to manage intellectual property as strategic resources for enhancing the competitiveness for organizations. (learning outcomes (a) to (d)),

There is an open book test which aims to assess the students' capability for applying the theory and concepts learnt in the class for analyzing and solving problems related to related to the subject (learning outcomes (a) to (d)).

Table 1 Summary of Assessment Components

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d		
1. Individual assignment	25%			✓	✓		
2. Group Assignment	10%		✓		✓		
3. Presentation for mini-project	10%	✓	✓	✓	✓		
4.Written report for mini-project	15%	✓	✓	✓	✓		
5. Short Quiz	15%	✓	✓				
6.Open-book Test	25%	✓	✓	✓			
Total	100 %						

Student Study Effort Required	Class contact:	
	▪ Lectures	26 Hrs.
	▪ In-class activities/Tutorial/ Laboratory	13 Hrs.
	Other student study effort:	
	▪ Study and self learning including mini-project and preparation for mini-project presentation	38 Hrs.
	▪ Assignment and report writing	25 Hrs.
	Total student study effort	102 Hrs.

Reading List and References

1. Cheung, C.F., Wang, W.M., Tse, Y.L. and Ma Ricky "Knowledge-based Intellectual Property Management for Technology Development Industry", Journal of Knowledge Management Practice, Vol. 14, No. 2, http://www.tlainc.com/articl335.htm (2013).
2. Cheung, C.F., Wang, W.M., Xu, X. and Willoughby, Kelvin W. "A Knowledge-Based System for Assessing and Managing Intellectual Property

	Managerial Risks for Small-and-Medium Sized Technological Enterprises", *International Journal of Intellectual Property Management*, Vol. 7, No. 1/2, p.57-83 (2014). 3. Cornish, William Rodolph & Llewelyn, David. Intellectual property: patents, copyright, trade marks and allied rights. Sweet & Maxwell, 8/e, 2013. 4. Cornish, William Rodolph. Cases and materials on intellectual property. Sweet & Maxwell, 5/e, 2006. 5. Lo, Jack and Pressman, David. How to make patent drawings: a patent it yourself companion. Nolo, 5/e 2007. 6. Gruner, Richard S., Ghosh,Shubha and Kesan, Jay P. Intellectual Property in Business Organizations: Cases and Materials 2006 http://www.lexisnexis.com/store/catalog/productdetail.jsp?pageName=relatedProducts&catId=&prodId =58918 7. Sullivan, P.H., Value-Driven Intellectual Capital: How to Convert Intangible Corporate Assets into Market Value. John Wiley & Sons, Inc., Hoboken, New Jersey, 2000. 8. Kieff, F. Scott, Newman, Pauline, Schwartz, Herbert F. and Smith, Henry E., Principles of Patent Law, 6th ed., Foundation Press, 2013. 9. Merges, Robert Patrick and Duffy John Fitzgerald, Patent Law and Policy: Cases and Materials, LEXISNEXIS, 2013. 10. Ventose, Eddy, Medical Patent Law - The Challenges of Medical Treatment, Edward Elgar, 2011. 11. Grubb, Philip W. and Thomsen, Peter L., Patents for Chemicals, Pharmaceuticals and Biotechnology: Fundamentals of Global Law, Practice and Strategy, Peter L. Thomsen, 2010. 12. Wang, W.M. and Cheung, C.F. "A Semantic-based Intellectual Property Management System (SIPMS) for Supporting Patent Analysis", Engineering Applications of Artificial Intelligence, Vol. 24, No. 8, p.1510-1520 (2011).

Subject Code	ISE5025
Subject Title	Knowledge Management Practices in Small and Medium-sized Enterprises
Credit Value	3
Level	5
Pre-requisite/Co-requisite/Exclusion	Nil
Objectives	The objectives of the subject are to provide students with 1. an understanding of SMEs, their attributes and implications for knowledge management; 2. an awareness of SMEs business operations and their impact on knowledge management practices; 3. an awareness regarding the issues of knowledge retention and knowledge transfer with regard to succession planning in SMEs; 4. an awareness of the danger of knowledge loss/attrition in SMEs as a consequence of skills shortage, aging workforces, knowledge concentration, and missing/insufficient succession planning.
Intended Learning Outcomes	Upon completion of the subject, students will be able to a. describe how knowledge management is practiced in SMEs; b. identify organizational prerequisites and barriers in SMEs and their impact on knowledge management; c. outline major reasons for knowledge loss in SMEs and how to reduce such losses; d. identify different methods and tools to accomplish knowledge retention and knowledge transfer and recognize the challenges of implementing those approaches in SME.
Subject Synopsis/ Indicative Syllabus	1. <u>Small- and medium-sized enterprises (SMEs)</u> Defining SME: people, organization and structure, strategies, business practices; succession planning; economic impact of SMEs. 2. <u>Knowledge Management and Knowledge Management Practices in SMEs</u> Prerequisites for and barriers to knowledge management in SMEs; tools supporting KM activities in SMEs; knowledge management

	implementation in SMEs; international examples of knowledge management practices in SMEs. 3. Knowledge Retention Knowledge retention as critical but often overlooked part of business practice and knowledge management in SMEs; identifying the barriers to knowledge retention in SMEs; strategies and measures supporting knowledge retention in SMEs; examples of knowledge retention practices in SMEs. 4. Knowledge Transfer Knowledge transfer as a crucial part of knowledge management in SMEs; supporting and hampering factors of knowledge transfer in SMEs; knowledge sharing in SMEs; sources of knowledge transfer in SMEs; examples of knowledge transfer practices in SMEs. 5. Knowledge loss/attrition Defining knowledge loss/attrition; occurrence of knowledge loss/attrition in the SME context; consequences of knowledge loss/attrition in SMEs; dealing with the danger of knowledge loss/attrition in SMEs. 6. Succession/business transfer Defining succession, business transfer, succession planning; factors supporting and hampering succession planning in SMEs; challenges with regard to the different types of transfer and their consequences for knowledge management; consequences of improper SME succession planning; the link between succession planning and knowledge management in SMEs; approaches to successful succession in SMEs; examples of succession planning in SMEs. 7. KM tools and systems for SMEs Identification and illustration of a range of technical tools and systems that are suitable for SMEs to use for productivity, collaboration, learning and innovation purposes. 8. Case Studies Various case studies from local and international companies will be covered to illustrate the concepts, theories and tools/systems.

Teaching/Learning Methodology

A mixture of lectures, group work, individual exercises and project work is used to deliver the various topics in this subject. Group work and individual exercises enable the students to work on SME-specific knowledge management challenges and present the results. The research project aims at giving the students the chance to apply their knowledge in a concrete case of SME succession planning.

Teaching/Learning Methodologies	Intended subject learning outcomes to be assessed			
	a	b	c	d
Lecture		✓		✓
Tutorial		✓		✓
Case studies	✓	✓	✓	✓
Personal Learning Environment & Network (PLE&N)		✓		✓

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed			
		a	b	c	d
1. Assignments	25%	✓	✓	✓	✓
2. Reflection + presentation	20%	✓	✓	✓	✓
3. Project	30%			✓	✓
4. In-class test	25%	✓	✓	✓	✓
Total	100%				

The assignments test the students' general understanding of the organizational aspects of knowledge management practices in SMEs. The reflective presentation is a critique of what the students have learnt after the completion of the subject.

<table>
<tr><td rowspan="8">Student Study Effort Expected</td><td colspan="2">Class contact:</td></tr>
<tr><td>▪ Lecture</td><td>20 Hrs.</td></tr>
<tr><td>▪ Tutorial/ Group Activities</td><td>19 Hrs.</td></tr>
<tr><td colspan="2">Other student study effort:</td></tr>
<tr><td>▪ Assignments and project</td><td>30 Hrs.</td></tr>
<tr><td>▪ Reflection and Presentation</td><td>20 Hrs.</td></tr>
<tr><td>▪ Self- reading (preparation for test)</td><td>30 Hrs.</td></tr>
<tr><td colspan="2">Total student study effort</td><td>119 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">Books
1. Hislop, D. (2013), Knowledge Management in Organizations, 3rd ed., Oxford University Press, Oxford.
Articles
1. Durst, S. & Edvardsson, I. R. (2012). Knowledge Management in SMEs: A Literature Review. Journal of Knowledge Management, 16(6), 879-903.
2. Durst, S. and Wilhelm, S. (2012). Knowledge management and succession planning in SMEs. Journal of Knowledge Management, 16(4), 637-49.
3. Durst, S., & Wilhelm, S. (2011). Knowledge management in practice: insights into a medium-sized enterprise’s exposure to knowledge loss. Prometheus, 29(1), 1-16.
4. Hutchinson, V. and Quintas, P. (2008). Do SMEs do Knowledge Management? Or Simply Manage What They Know? International Small Business Journal, 26(2), 131-154.
5. Sparrow, J. (2005). Classification of different knowledge management development approaches of SMEs. Knowledge Management Research & Practice, 3(3), 136-145.
6. Wong, K. Y. & Aspinwall, E. (2004) Characterizing knowledge management in the small business environment. Journal of Knowledge Management, 8(3), 44-61.
7. McAdam, R. & Reid, R. (2001). SME and large organisation perceptions of knowledge management: comparisons and contrasts. Journal of Knowledge Management, 5(3), 231-241.</td></tr>
</table>

Subject Code	ISE5699
Subject Title	Dissertation
Credit Value	9
Level	5
Pre-requisite/Co-requisite/Exclusion	Completed at least four subjects with a GPA of 2.5 or above
Objectives	The aim of this subject is to equip students with the ability to 1. independently conduct investigatory work; 2. formulate problem(s) and develop appropriate research methodology; 3. write professional dissertations with master-level standard.
Intended Learning Outcomes	Upon completion of this subject, students will be able to a. state the project objectives, identify the problems and constraints, and align appropriate methods and solutions to resolve these problems; b. demonstrate in-depth knowledge of an area in knowledge management that belongs to the core part of the project; c. demonstrate knowledge of the scope and limitations of knowledge management techniques adopted in the project; d. perform scientific and logical analyses of data collected from the project, as well as to draw appropriate conclusions that address the project objectives; e. produce a dissertation, which should be an exposition of the student's own work and ideas.
Teaching/Learning Methodology	The student and the academic supervisor should coordinate with each other periodically to discuss the progress of the dissertation. The academic supervisor provides guidance and advice to the student on the style of the dissertation presentation, among others. Academic and professional supervisors shall coordinate with each other, if necessary. The academic supervisor may be contacted for consultation at the university/student's workplace. A professional supervisor, if appointed, is expected to help in the assessment of the student’s effort in the workplace (i.e., during oral examination) and to provide assurance that the student's work has been done

independently. If the work for the dissertation forms part of a group endeavor within the student's organization, it is essential that the student's personal contribution be identified and that the professional supervisor can pinpoint the student's major contribution.

In cases wherein no suitable professional supervisor has been identified, a student may seek an academic supervisor in behalf of the professional supervisor. If the dissertation topic focuses on the student's workplace, visit(s) to the said workplace should be conducted by the academic supervisor.

Teaching/Learning Methodologies	Intended subject learning outcomes to be assessed				
	a	b	c	d	e
Project supervision	✓	✓	✓	✓	✓

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weight	Intended subject learning outcomes to be assessed				
		a	b	c	d	e
1. Oral Exam	30%	✓	✓	✓	✓	
2. Progress	20%	✓	✓		✓	✓
3. Dissertation	50%	✓	✓	✓	✓	✓
Total	100%					

The oral examination requires the student to demonstrate his/her mastery of the problem domain, project objectives, methodology, data collection and analysis, and formulation of recommendations and evaluations (if appropriate). The student is expected to maintain regular contact with the supervisor and provide updates on the progress at all stages of the project. The dissertation is a complete report demonstrating the scholarly work of the student throughout the duration of the project.

Student Study Effort Expected	Class contact:	
	▪ Meetings and Oral Presentation	18 Hrs.
	Other student study effort:	
	▪ Project/Research work	240 Hrs.
	▪ Dissertation writing	90 Hrs.
	Total student study effort	348 Hrs.
Reading List and References	1. Blaxter, L., et al. 2001, *How to Research*, 2nd edn, Open University Press 2. Celsi, M. W., Money, A. H., Samouel, P., & Page, M. J. (2011). *Essentials of business research methods.* ME Sharpe. 3. Neville, C. (2010). *The complete guide to referencing and avoiding plagiarism.* McGraw-Hill International. 4. Murray, R. 2002, *How to Write a Thesis*, Open University Press Additional reading materials may be provided by the academic supervisor.	

Subject Code	MM511
Subject Title	Managing Organizations and People
Credit Value	3
Level	5
Normal Duration	1-semester
~~Pre-requisite/~~ ~~Co-requisite/~~ Exclusion	Managing Organizations and People (MM5117 or MM5119)
Role and Purposes	This course aims to introduce students to concepts and practices of the four basic management functions of planning, organizing, leading and controlling. It aims to facilitate students to acquire a good grounding for further studies in more specialized management subjects, and to apply theories to practice in becoming more effective managers.
Subject Learning Outcomes	Upon completion of the subject, students will be able to: a. learn theories about the four basic management functions of planning, organizing, leading and controlling, as well as the skills needed to perform these functions; b. have a better understanding of the evolution of management theories, how to deal with ethical issues and globalization, and general management functions and activities; c. apply some of the management theories to diagnose the practical management problems in the workplace and come up with proper solutions to deal with these problems; d. synthesize and digest new ideas, discoveries, and cutting-edge theories from various sources, such as popular management books, professional management magazines, and scientific journals.
Subject Synopsis/ Indicative Syllabus	**Managing Organizations and People: An Overview** Definitions of management, organization and organizational behaviour. History of management. The organization environment. International management. Contemporary management issues. **Decision Making** Models of management decision making. Managerial ethics and social

responsibility.

Management Functions

The planning process and strategic planning. The organising process and organising structure. The leading process and people management. The controlling process and controlling techniques.

People Management Skills

Group and team dynamics. Leadership models. Communication models. Conflict resolution models. The management of corporate values and culture. Management of change and organizational development.

Teaching/Learning Methodology

Lectures are used to impart management and organizational concepts which are explored in greater detail via case studies. Students will learn management skills through participative experiential class exercises. Synthesis and application of knowledge are assessed by means of presentation, essays and examination.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)			
		a.	b.	c.	d.
Continuous Assessment*	**50%**				
1. Individual paper	25%	✓	✓	✓	✓
2. Group presentation / project	25%	✓	✓	✓	✓
Examination	**50%**	✓	✓	✓	✓
Total	100 %				

**Weighting of assessment methods/tasks in continuous assessment may be different, subject to each subject lecturer.*

To pass this subject, students are required to obtain Grade D or above in **both** the Continuous Assessment and Examination components.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: the various methods are designed to ensure that all students taking this subject –

<table>
<tr><td></td><td colspan="2">1. engage in a case-study group project to apply theories to practice;
2. write an individual research paper that explores a certain topic/area of management in greater depth; and
3. take a closed-book exam to demonstrate conceptual and analytical skills by presenting arguments for and/or against certain topics based on theories, and if and when appropriate, taking circumstantial practicalities into consideration.
Feedback is given to students immediately following the presentations and all students are invited to join this discussion.</td></tr>
<tr><td rowspan="6">Student Study Effort Expected</td><td>Class contact:</td><td></td></tr>
<tr><td>▪ Lectures</td><td>39 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Preparation for lectures</td><td>39 Hrs.</td></tr>
<tr><td>▪ Preparation for assignment / group project and presentation / examination</td><td>78 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>156 Hrs.</td></tr>
<tr><td>Reading List and References</td><td colspan="2">Recommended Textbooks

Bartol, Kathryn, Tein, Margaret, Matthews, Graham and Sharma, Hishnu (2011). Management: A Pacific rim focus (6th ed.). North Ryde, NSW: McGraw-Hill Australia.

Bateman, Thomas S. and Snell, Scott A. (2011). Management: Leading & collaborating in a competitive World (9th ed.). New York: McGraw-Hill/Irwin.

Daft, Richard L. (2014). New era of management (11th ed.). International: South-Western Cengage Learning.

Griffin, Ricky W. (2011). Management (10th ed.). China: South-Western, Cengage Learning.

Robbins, Stephen P. and Coulter, Mary (2009). Management (10th ed.).</td></tr>
</table>

USA: Prentice-Hall.

Williams, Chuck (2012). *Effective management: A multimedia approach* (5th ed.). International Edition: South-Western/Cengage Learning.

References

Buchanan, D. & Huczynski, A. (2007). *Organisation Behaviour- an Introductory Text*, Prentice Hall: London.

Crainer, S. (2000). *The Management Century, a Critical Review of 20th Century Thought and Practice*, Jossey-Bass: San Francisco.

Dawson, Sandra. (1996). *Analyzing organizations* (3rd ed.). Basingstoke: Macmillan.

Deresky, Helen. (2014). *International management: Managing across borders and cultures* (8th ed.). Boston: Pearson.

Francesco, A. M. & Gold, B. A. (2005). *International Organizational Behavior* (7th ed.), Pearson: Upper Saddle River, NJ.

George, Claude S., Jr. (1972). *The history of management thought* (2nd ed.). Englewood Cliffs, New Jersey: Prentice Hall.

Hellriegel, Don, Jackson, Susan E. and Slocum, John W., Jr. (2005). *Management: A competency-based approach* (10th ed.). Singapore: South-Western.

Hitt, Michael A., Black, J. Stewart and Porter, Lyman W. (2009). *Management* (2nd ed.). Upper Saddle River, NJ: Pearson.

Hofstede, Geert. (2010). *Cultures and organizations: Software of the mind – Intercultural cooperation and its importance for survival* (3rd ed.). New York: McGraw-Hill.

Kennedy, Carol. (1991). *Guide to the management gurus: Shortcuts to the ideas of leading management thinkers*. London: Business Books.

Luthans, Fred. (2005). *Organizational behavior* (10th ed.). Boston, MA:

McGraw-Hill Irwin.

Mintzberg, Henry. (1983). *Structure in fives: Designing effective organizations.* Englewood Cliffs, NJ: Prentice-Hall.

Mullins, Laurie. (2010), *Management and Organizational Behaviour* (9th ed.). Harlow: Financial Times Prentice Hall.

Pugh, D.S. and Hickson, D.J. (2007). *Writers on organizations* (6th ed.). Thousand Oaks, CA: Sage.

Robbins, Stephen P. (2007). *Organizational behavior* (12th ed.). Upper Saddle River: Prentice-Hall.

Journals

Academy of Management Executive
Academy of Management Journal
Academy of Management Review
Administrative Science Quarterly
Harvard Business Review
Human Relations
Journal of Applied Psychology
Journal of General Management
Journal of International Business Studies
Journal of Management
Journal of Management Studies
Journal of Organizational Behavior
Management Review
Organization Science
Organization Dynamics
Organization Studies
Personnel Psychology

Subject Code	MM521
Subject Title	Leading Change
Credit Value	3
Level	5
Normal Duration	1-semester
Pre-requisite/ ~~Co-requisite~~/ Exclusion	Managing Organizations and People (MM511) ---------- Managing Change (MM5211)
Role and Purposes	The objective of this subject is to assist senior management to develop a change mindset for managing their organizations in a changing environment. Students will learn the competencies of change agents in order to implement change initiatives in their organizations.
Subject Learning Outcomes	Upon completion of the subject, students will be able to: a. develop a mindset for managing and leading organizational change; b. facilitate their organizations to learn faster and better; c. expand their competencies as change agents; and d. formulate organizational strategies to compete for the future.
Subject Synopsis/ Indicative Syllabus	**The Nature of Organizational Change** Barriers to Change, Mobilizing for Change, Change as a Process through Time, The Three States of Change, Types and Paths of Change, The Change Style, Analyzing the Change Context, Exercising Change Judgment. **Change Agent** The Senior Management as Change Agent, Personal Competencies and Managerial Skills for Change Agent. **The Implementation Path** The Cultural Web of an Organization, Change Levers and Interventions, Communication during Change, Planning, Monitoring and Resourcing, Middle Managers as Change Intermediaries. **Competing for the Future** Building the Learning Company, Facilitating Organizational Learning,

<table>
<tr><td></td><td>Improving Productivity and Quality, Embracing Chaos and Complexity.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>The class will help students to acquire a theoretical and practical orientation to manage and lead change in organizations through a series of experiential exercises and case studies. Students are expected to participate actively in class discussion.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="4">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a.</td><td>b.</td><td>c.</td><td>d.</td></tr>
<tr><td>Continuous Assessment*</td><td>50%</td><td></td><td></td><td></td><td></td></tr>
<tr><td>1. Individual assignment</td><td>30%</td><td>✓</td><td></td><td>✓</td><td></td></tr>
<tr><td>2. Group assignment</td><td>20%</td><td></td><td>✓</td><td></td><td>✓</td></tr>
<tr><td>Examination</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="4"></td></tr>
</table>
*Weighting of assessment methods/tasks in continuous assessment may be different, subject to each subject lecturer.

To pass this subject, students are required to obtain Grade D or above in <u>both</u> the Continuous Assessment and Examination components.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: the various methods are designed to ensure that all students taking this subject –

The Individual Assignment is used to enable students to improve a change initiative introduced in their own organizations.
The Group Assignment is designed to help students to learn as a group and apply the concepts learned in real life practice.
Examination is used to test if students master the basic concepts of leading change explained in the lectures and seminars.

</td></tr>
</table>

	Feedback is given to students immediately following the presentations and all students are invited to join this discussion.	
Student Study Effort Expected	Class contact:	
	• Lectures	39 Hrs.
	Other student study effort:	
	• Self-study	81 Hrs.
	Total student study effort	120 Hrs.
Reading List and References	*Recommended Textbook* Balogun, J. and Hailey, V.C. (2008). *Exploring Strategic Change*, Third Edition, Prentice Hall, London. *Reading & References* *Books* Blanchard, K., Britt, J., Hoekstra, J. and Zigarmi, P. (2009). *Who Killed Change? Solving the Mystery of Leading People Through Change*, William Morrow, New York. Collins, J. (2001). *Good To Great: Why Some Companies make the Leap … and Others Don't*, Random House Business Books, London. Goddard, J. and Eccles, T. (2012). *Uncommon Sense, Common Nonsense: Why Some Organizations Consistently Outperform Others*, Profile Books, London. Hamel, G. and Prahalad, C.K. (1994). *Competing for the Future*. HBS Press, Boston. Hammer, M. (2001). *The Agenda: What Every Business Must Do to Dominate the Decade*, Crown Business, New York. Johnson, S. (1998). *Who Moved My Cheese?* G.P. Putnam's Sons, New York. Kotter, J.P. (1996). *Leading Change*, HBS Press, Boston. Kotter, J.P. and Rathgeber, H. (2005). *Our Iceberg Is Melting: Changing and Succeeding Under Any Conditions*, St. Martins Press, New York. Latham, G.P. (2009). *Becoming the Evidence-Based Manager: Making the Science of Management Work for You*, Davies-Black, Boston. McGoff, C. (2012). *The Primes: How Any Group Can Solve Any Problem*,	

Wiley, Hoboken, New Jersey.

Pedler, M., Burgoyne, J. and Boydell, T. (1997). *The Learning Company: A Strategy for Sustainable Development*, 2nd Ed, McGraw-Hill, Maidenhead.

Roam, D. (2009). *Unfolding the Napkin*, Porfolio, New York.

Robertson, D.C. (2013). *Brick by Brick: How Lego Rewrote the Rules of Innovation and Conquered the Global Toy Industry*, Crown Business, New York.

Senge, P.M. (1990). *The Fifth Discipline*, Doubleday/Currency, New York.

Sibbet, D. (2013). *Visual Leaders: New Tools for Visioning, Management and Organization Change*, Wiley, Hoboken, New Jersey.

Swisher, V.V. (2012). *Becoming an Agile Leader*, Korn/Ferry International.

Heifetz, R., Grashow, A. and Linsky, M. (2009). *The Practice of Adaptive Leadership*, Harvard Business Press, Boston.

<u>*Selected Articles*</u>

Berg, T. and Pooley, R. (2013). Contemporary iconography for rich picture construction, *Systems Research and Behavioral Science*, vol. 30, no. 1, 31-42.

Berg, T. and Pooley, R. (2013). Rich pictures: Collaborative communication through icons, *Systems Practice and Action Research*, vol. 26, No. 4, pp. 361-376.

Collins, J.C. and Porras, J.I. (1995). 'Building a visionary company', *California Management Review*, Vol. 37, No. 2, pp. 80-100.

De Geus, A. (1997). 'The living company', *Harvard Business Review*, Vol. 75, No. 2, pp. 51-59.

Jackson, M.C. (1995). 'Beyond the fads: Systems thinking for managers', *System Research*, Vol. 12, No. 1, pp. 25-42.

Lissack, M.R. (1997). 'Of chaos and complexity: Managerial insights from a new science', *Management Decision*, Vol. 35, No. 3, pp. 205-218.

Mak, W.M. (1995). 'The 5'S: The foundation of total quality management', in G. K. Kanji, ed., *Total Quality Management: Proceedings of the First World Congress*, London, Chapman and Hall. pp. 603-606.

Mak, W.M. (1999). 'Cultivating a quality mind-set', *Total Quality Management*, Vol. 10, no. 4/5, pp. 622-626.

Mak, W.M. (2002). 'Rethinking business strategy with complexity theory', in G. Ragsdell and J. Wilby, eds., *Systems Theory and Practice in the Knowledge Age*, New York, Kluwer Academic/Plenum Publishers. pp.

	321-328. Nonaka, I. (1991). 'The knowledge-creating company', *Harvard Business Review*, Vol. 69, No. 6, pp. 6-104. Schein, E.H. (1993). 'How can organizations learn faster: The problem of entering the greenroom', *Sloan Management Review*, Vol. 34, No. 2, pp. 85-92. Schyns, B., Tymon, A., Kiefer, T. and Kerschreiter, R. (2012). New ways to leadership development: A picture paints a thousand words, *Management Learning*, vol. 44, no. 1, pp. 11-24. Strebel, P. (1996). 'Why do employees resist change?', *Harvard Business Review*, Vol. 74, No. 3, pp. 86-92.