MASTER in INNOVATIVE COMPUTING

PROGRAM SPECIFICATIONS

The Master in Innovative Computing is a coursework programme offered on a full-time basis at the UTM Main Campus in Johor Bahru. The duration of study for the full-time programme is subjected to the students' entry qualifications and lasts between one (1) year to a maximum of four (4) years.

The coursework programme is offered based on 2 normal semesters and 1 short semester per academic session. This program is a general program for computing field that provides exposure in computing field to graduates of computer science, science and technology engineering, mathematics and social sciences. The program is suitable for graduates who have none or have work experience. In addition, this program is a conversion program for graduates with specialization other than Computer Science where graduates can make this program as an additional field (supplementary) or re-skilling to their field at their first-degree level.

GENERAL INFORMATION

<table>
<tr><td colspan="3">1. Awarding Institution</td><td colspan="2">Universiti Teknologi Malaysia</td></tr>
<tr><td colspan="3">2. Teaching Institution</td><td colspan="2">Universiti Teknologi Malaysia</td></tr>
<tr><td colspan="3">3. Programme Name</td><td colspan="2">Master in Innovative Computing</td></tr>
<tr><td colspan="3">4. Final Award</td><td colspan="2">Master in Innovative Computing</td></tr>
<tr><td colspan="3">5. Programme Code</td><td colspan="2">MECC</td></tr>
<tr><td colspan="3">6. Professional or Statutory Board of Accreditations</td><td colspan="2">Malaysian Qualification Agency (MQA)</td></tr>
<tr><td colspan="3">7. Language(s) Instruction</td><td colspan="2">English</td></tr>
<tr><td colspan="3">8. Mode of Study (Conventional, Distance Learning, etc.)</td><td colspan="2">Conventional</td></tr>
<tr><td colspan="3">9. Mode of Operation (Franchise, Self-govern, etc.)</td><td colspan="2">Self-governing</td></tr>
<tr><td colspan="3">10. Study Scheme (Full Time / Part Time)</td><td colspan="2">Full Time</td></tr>
<tr><td colspan="3" rowspan="2">11. Study Duration</td><td>Minimum</td><td>1 Year
(2 Normal Semesters
+ 1 Short Semesters</td></tr>
<tr><td>Maximum</td><td>4 Years
(8 Semesters)</td></tr>
<tr><td rowspan="2">Types of Semesters</td><td colspan="2">No of Semesters</td><td colspan="2">No of Weeks / Semesters</td></tr>
<tr><td>Full Time</td><td>Part Time</td><td>Full Time</td><td>Part Time</td></tr>
<tr><td>Normal</td><td>2</td><td>-</td><td>17</td><td>-</td></tr>
<tr><td>Short</td><td>1</td><td>-</td><td>9</td><td>-</td></tr>
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COURSE CLASSIFICATION

No	Classification	Credit Hours	Percentage (%)
i.	University compulsory courses	3	6.7
ii.	Core courses	21	46.7
iii.	Elective courses	12	26.6
iv.	Master project	9	20
	Total	45	100
Total Credit Hours to Graduate		45 credit hours	

AWARD REQUIREMENTS

Student will be awarded with Master in Innovative Computing after graduating and meet the conditions set by UTM as below:

- Pass all courses with a total accumulated credit of 45 and pass CGPA of 3.0 and above.
- Achieved all conditions given in the preparation of Masters Project.
- An applicant has applied for the award of Master in Innovative Computing.

ENTRY REQUIREMENTS

General University Requirements:
Minimum Bachelor's Degree (Honors) with CPA 2.50/4.00 in the relevant field, or equivalent from a recognized university based on UTM's "Syarat Kemasukan Penilaian 1998 Pindaan 1/2013 (Kerja Kursus/ Mod Campuran/ Penyelidikan).

School's Requirements:
Bachelor's Degree in the Computer Science field recognized by the Senate of UTM with honours or equivalent with at least CGPA 2.50 and above.

OR
Bachelor's Degree in Science / Technology / Engineering or Mathematics or other related fields recognized by the Senate of UTM or equivalent with at least CGPA 2.50 and above.

OR
Bachelor's Degree in Social Sciences or equivalent with at least CGPA 2.50 AND pass (honours) in Mathematics at STPM or Foundation level AND pass the following pre-Master courses during the first semester studies:

i) Object-oriented Programming
ii) Computer Security

OR
An applicant with a CGPA < 2.50 is required to have at least 5 years working experience in computing related field.

OR
An applicant with a Diploma in Computer Science recognized by the Senate of UTM or equivalent is required to have at least 5 years of working experience in a field related to Computer Science or its equivalent AND pass the APEL A - T7 assessment.

English Language Requirements:

International students who apply to UTM requires following qualification:

- TOEFL or IELTS within two years with a TOEFL score (IBT 60 **OR** IELTS Band 6 **OR**
- ELS Certified Intensive English Program (CIEP) Level 108 **OR**
- Cambridge English Qualifications (CEQ) B2 First, C1 Advanced, C2 Skill Score sometime 169 **OR**
- Academic PTE-59 **OR**
- Malaysian University Entrance Test (MUET) Band 4.

Refer to English eligibility requirements on the old web: https://admission.utm.my/english-languagerequirements-3 /

An applicant who does not fulfil English language requirements requires one of the following before registering for the program:

- Intensive English Language Program (IEP) by Language Academic (LA), UTM and pass IELTS Band 6.0 **OR** pass CEFR – aligned test with required score **OR**
- Certified Intensive English Program (CIEP) conducted by ELS Language Center and passed level 108

Accepted OKU category if only the category of physical disability and paralysis as outlined by the Suruhanjaya Perkhidmatan Awam (SPA). However, applicants are able to use their hands to write and type.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

The aim of this programme is to meet the needs of improving the knowledge and skills of employees from the field of computer science and other than computer science.

To meet this goal, after 3 to 5 years of graduates, the program graduates will be able to:

Program Objectives	Description
PEO1	To produce graduates who are mastery of knowledge and competency in areas of Computing field.
PEO2	To produce graduates who are professionalism with high standards of ethical conducts within organization and global society.

PEO3	To produce students who can responsive to changing situations by continuously acquiring new knowledge and skills.

PROGRAMME LEARNING OUTCOME (PLO)

This Master in Innovative Computing programme offers learning outcomes that cumulatively reflects eleven (11) learning outcomes based on MQF (2nd Edition) and the Programme Standards for Computing. Graduates from this programme will be able to:

Program Learning Outcomes	Description
PLO1	Synthesize complex information, specialized concept, theories, methods and practice independently in the field of computing
PLO2	Construct innovative solutions to complex problems or issues in the field of computing.
PLO3	Apply practical skills and tolls that are based on the innovative forefront knowledge and the latest development in the field of computing.
PLO4	Collaborate with different people in communities ethically and professionally.
PLO5	Communicative effectively the results of scholarly work to peers, experts and non-experts.
PLO6	Use digital technologies and software competently to support research work or studies.
PLO7	Analyse numerical and graphically data using quantitative or qualitative tools related to the field of computing.
PLO8	Demonstrate leadership, autonomy and responsibility in the context of complex application and unpredictable situation.
PLO9	Demonstrate self-advancement through continuous academic and professional development.
PLO10	Initiate entrepreneurial project with relevant knowledge and expertise.
PLO11	Demonstrate adherence to ethical and professional codes of practice in advising and decision making.

COURSE MENU

Syllabus	SEMESTER 1	SEMESTER 2	SEMESTER 3	TOTAL
University Compulsory Course (Choose 1)	UBSS 6013 / UBSS 6023 / UHMS 6013 / UHMZ 6023 / UHISS 6013 / UHPS 6013 / UHLM 6013 / URTS 6013 / UECS 6013 / UECS 6023 / UMJJ 6013			3
School Compulsory Courses	MECC1103 MECC1113 MECC1133 MECC1143 MECC1123	MECC1213 MECC1203		21
School Contemporary & Advanced Elective Courses (Choose: 2 – Contemporary 2 - Advanced)		MECC 1403 / MECC 1413 / MECC 1423 / MECC 1433 / MECC 1443 / MECC 1453 / MECC 1503 / MECC 1513 / MECC 1523 / MECC 1533 / MECC 1543 / MECC 1603 / MECC 1613 / MECC 1623 / MECC 1633 Choose 3	MECC 1403 / MECC 1413 / MECC 1423 / MECC 1433 / MECC 1443 / MECC 1453 / MECC 1503 / MECC 1513 / MECC 1523 / MECC 1533 / MECC 1543 / MECC 1603 / MECC 1613 / MECC 1623 / MECC 1633 Choose 1	12
Innovative Computing Project 1 & 2		MECC1233	MECC1316	9
Total Credits	**18**	**18**	**9**	**45**

GRADUATION CHECKLIST

To graduate, students must pass all the stated courses in the checklist. It is the responsibility of the students to ensure that all courses are taken and passed. Students who do not complete any of the courses are not allowed to graduate.

University Common Course (Choose 1 course)		**Credit**
UBSS 6013	Organisation Behaviour and Development	**3**
UBSS 6023	Business Ethics, Responsibility and Sustainability	**3**
UHMS 6013	Seminar on Global Development, Economic and Social Issues	**3**
UHMZ 6023	Malaysian Society and Culture	**3**
UHISS 6013	Philosophy of Science and Civilization	**3**
UHPS 6013	Dynamic of Leadership	**3**
UHLM 6013	Malay Language for Post Graduates	**3**
URTS 6013	Environmental Ethics	**3**
UECS 6013	IT Project Management	**3**
UECS 6023	Introduction to Technopreneurship	**3**
UMJJ 6013	Basic Japanese Language and Culture	**3**
Core Courses (Compulsory)		
MECC1103	Research Methodology	**3**
MECC1113	Computation and Programming	**3**
MECC1133	Machine Learning	**3**
MECC1143	Cloud Computing	**3**
MECC1123	Software Engineering and Innovation	**3**
MECC1213	Cyber Security	**3**
MECC1203	Computational Statistic for Data Analysis	**3**
Cotemporary Elective Courses (Choose 2)		
MECC 1403	Cotemporary Software Development	**3**
MECC 1433	Secure Software Development	**3**
MECC 1443	Advanced Human Computer Interaction	**3**
MECC 1513	Business Intelligence and Analytics	**3**
MECC 1543	Professional Special Topic	**3**
MECC 1603	Cloud Computing Security	**3**
MECC 1633	Digital Forensic	**3**
Advanced Elective Courses (Choose 2)		
MECC 1413	Software Verification and Validation	**3**

MECC 1423	Cyber Physical System	**3**
MECC 1453	Virtual and Augmented Reality	**3**
MECC 1503	Big Data Management	**3**
MECC 1523	Business Continuity Planning	**3**
MECC 1533	Supply Chain Data Analytics	**3**
MECC 1613	Penetration Testing	**3**
MECC 1623	Information Security Governance and Risk Management	**3**
Innovative Project		
MECC1233	Innovative Computing Project I	**3**
MECC1316	Innovative Computing Project II	**6**
Total		**45**

COURSE SYNOPSIS

CORE COURSES

MECC1103 Research Methodology

This course covers the general principles of Research Methodology that are applicable to Computing and Digital Technology discipline. It discusses the fundamental process in conducting academic research. The theoretical and practical aspects of preparing a research proposal presented. Among topics that will be covered are introduction to research and its philosophy, problem formulation and research objectives, literature review, research methodology and design, data collection procedures, data analysis, research proposal and thesis preparation and research management

MEC1113 Computation and Programming

Solving problems in areas such as business, biology, physics, chemistry, engineering, humanities, and social sciences often requires manipulating, analyzing, and visualizing data through computer programming. This course aims of the module is to equip students with a grounding in foundations of computing, to enable students from a wider background to confidently undertake a taught master's programme in advanced computing topics. At the end of this course, students are expected to mastery in foundational concepts of computing.

MECC1133 Machine Learning

This course introduces students to the fundamentals of cognitive computing. The subject matter focuses on simulating human thought processes in a computerized model. Using self-learning algorithms that use data mining, pattern recognition and natural language processing, the computer can mimic the way the human brain works. this course emphasizes on theoretical and practical aspects of various machine learning algorithms related to represent the cognitive capabilities in computational technologies. The course features practical implementations through assignments undertaken both individually and in groups.

MECC1143 Cloud Computing

This course presents a top-down view of cloud computing, from applications and administration to programming and infrastructure. Its main focus is on parallel programming techniques for cloud computing and large-scale distributed systems which form the cloud infrastructure. The topics include: overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems. Students will study state-of-the-art solutions for cloud computing developed by Google, Amazon, Microsoft, Yahoo, VMWare, etc. Students will also apply what they learn in one programming assignment and one project executed over Amazon Web Services.

MECC1123 Software Engineering and Innovation

Software Development and Engineering is a comprehensive industry project-based learning course which requires student to investigate community or industry needs, solve the related problems, design and develop application according to software engineering practices. This course offers the student to develop their entrepreneurial skill by discovering a practical solution, and innovates a unique application to reveal potential niche opportunities.

MEC1213 Cyber Security

The course is aimed at imparting fundamental knowledge and skill sets required to assume the overall responsibilities of administration and management of security of an information system. This course covers the topics of the threats to computer as well as other general security areas such as program and network, evaluating the relative risks of these threats and developing cost-effective and user-friendly countermeasures. The course will study in detail principles and tools related to these topics. At the end of this course, the student should gain some knowledge and experience with respect to the risks of secure computing.

MECC1203 Computational Statistic for Data Analysis

This course provides a foundation concept to data analytics. Students will learn statistical inference including estimation, hypothesis testing and nonparametric tests. Further, students will be introduced to Bayesian inference, linear regression and classification. R will be used to apply these statistical methods. At the end of the course, students should be able to apply the statistical methods to real large data sets.

ELECTIVE COURSES

COTEMPORARY ELECTIVE COURSES

MECC1403 Cotemporary Software Development

This course aims to equip students to develop techniques of software-intensive systems through successful requirements engineering, design, testing, maintenance and evolution, and project and quality management. Students build on their basic software engineering knowledge by extending it with specific techniques for maintenance, evolution, dependability, reliability, safety, security, and resilience.

MECC1433 Secure Software Development

This course provides the principles of Secure Software Development and practical methods to secure requirements, design, implementation, testing, deployment and maintenance in software development. Students will also review policy specific requirements necessary to implement a secure development program within enterprise organizations. The students will also be able to understand software vulnerability, and how to evaluate, and address security risks to software.

MECC1443 Advance Human Computer Interaction

This course provides the students with advanced topics in Human Computer Interaction (HCI). The course gives students practice and theoretical knowledge of the use of HCI methodologies for both design and evaluation, different types of HCI experimentation, including both quantitative and qualitative methods. Students are expected to participate in group activities, student-led presentations and discussion of several research papers in HCI.

MECC1513 Business Intelligence and Analytics

Business analytics refers to the ways in which enterprises such as businesses, non-profits and governments can use data to gain insights and make better decisions. Business analytics is applied in operations, marketing, finance and strategic planning among other functions. The ability to use data effectively to drive rapid, precise and profitable decision has been critical strategic advantages for companies. With the increasing availability of broad and deep sources of information-so called “Big data”-business analytics are becoming an even more critical capability for enterprises of all types and all sizes. It combines statistical analysis and predictive modelling to identify trends and understand the information that can drive business change and support sustained successful business practices.

MECC1543 Professional Special Topics

This course provides students with current issues related to software engineering in general and specifically in software development life cycle that includes planning, analysis, design, implementation, and maintenance. The key objective of this course is to equip the students with the knowledge in current issues mainly the current trend and technology in industry. Based on the given problems, the students should argue and think critically what could be other alternatives besides the current solutions.

MECC1603 Cloud Computing Security

In this course, we are going to learn about common cloud misconfigurations, how to perform a risk assessment and verify compliance for various Cloud Services. Further, we will delve deeper into identifying security risks in these cloud services and to implement best practices to mitigate the common cloud misconfigurations. Other topics include topics of data ownership, privacy protections, data mobility, quality of service and service levels, bandwidth costs, data protection, and support.

MECC1633 Digital Forensic

This course takes a detailed approach to the use of computers and computer technology in the investigation of incidents, both criminal and civil, in which computer technology play a significant or interesting role. Students completing this course will be familiar with the core computer science theory and practical skills necessary to perform elementary computer/digital forensic

investigations, understand the role of technology in investigating computer-based crime, and be prepared to deal with investigative bodies at an elementary level.

ADVANCED ELECTIVE COURSES

MECC1413 Software Verification and Validation

The content of the course discusses the Software Quality issues much beyond the classic boundaries of custom-made software development by large established software houses. It dedicates significant attention to the other software development and maintenance environment that reflect the current state of industry. This course is designed to provide students with in depth knowledge on software quality assurance components, software testing and its test process. The course covers the basic principles of software quality assurance, software testing and test activities that include the test plan, test design, monitoring, implementation and test closure. The students will also learn various categories of test design techniques and methods used in both black-box and white-box testing. At the end of this course, students should be able to recognize various types and levels of testing as well as categorizing and applying software testing process and techniques. The students should also be able to do work effectively in a team and lead the team in the test activities throughout the software testing life cycle.

MECC1423 Cyber Physical System

Cyber-physical systems (CPS) are engineered systems that are built from, and depend upon, the seamless integration of computational algorithms and physical components. Designing algorithms to control CPS is challenging due to their tight coupling with physical behavior. The future CPS workforce is likely to include CPS engineers, who focus on the knowledge and skills spanning cyber technology and physical systems that operate in the physical world. This course provides a foundation that highlights the interaction of cyber (computation and/or communication) and physical aspects (physical plants) of systems.

MECC1453 Virtual and Augmented Reality Environment

This course focuses on Virtual and Augmented Reality (AR) systems, algorithms, and applications. With the proliferation of powerful, always-on, Internet- connected mobile devices such as smartphones, tablets and newer head-worn displays, sophisticated applications that combine location-specific content with the current user view are becoming more possible. Application developers for these devices require a broad set of technical and design skills to create effective interactive AR experiences. Topics will include vision-based marker and feature tracking, model-to-view space transformations, mobile application development, and AR interaction techniques.

MECC1503 Big Data Management

This course provides a basic fundamental of big data architecture and management. Students will learn the big data processes and the current big data technologies that are available. Further, students will be exposed to the big data platform ecosystem for big data manipulation. The big data management will be explored for the best practice in managing and manipulating large amount of data. At the end of the course, students should be able to understand the architecture and management of big data and also can develop simple application of big data handling using particular platform in assignment.

MECC1523 Business Continuity Planning

The subject is aimed at imparting knowledge and skill sets required to prepare to respond to a disaster and restore normal operations afterward. This subject covers issues related to administration and management of disaster recovery program. The important plan for disaster recovery includes the contingency plans: i) the Incident Response Planning (IRP), ii) Disaster Recovery Planning (DRP), iii) Business Impact Analysis (BIA) and iv) Business Continuity Planning (BCP). Topics include preparing to develop disaster recovery plan, assessing risk, prioritizing system and functions for recovery, developing plans and procedure and organizational relationships in disaster recovery. The subject will study in detail principles and tools related to these topics. The subject will also cover procedures to response to attacks on computer, implementing disaster recovery plans, testing and rehearsal, assessment of needs, threats and solutions and living through a disaster.

MECC1533 Supply Chain Analytics

The course aims to improve operational efficiency and effectiveness by enabling data-driven decisions at strategic, operational and tactical levels. The student will able to perform analysis using data analytics methods and analytical tools necessary in the areas of predictive, descriptive and prescriptive analytics to efficiently manage demand and supply networks. Through the analysis and discussion of case studies they will discover business insights in order to optimize the value of supply chain processes and operations. The topics covered including designing the supply chain network, planning demand and supply in a supply chain, retail analytics, inventory management and transport analytics. Software packages such as R, Python and Tableau will be utilized.

MECC1613 Penetration Testing

This course will discuss issues pertaining to penetration testing which covers areas like finding vulnerabilities in various computer systems, exploiting them in an ethical manner. Emphasis is given on the fundamental theory and as well as hands on practice. Topics covered include information reconnaissance, web application pentesting, wireless pentesting, network pentesting, and current issues in pentesting.

MECC1623 Information Security Governance and Risk Management

The course is aimed at imparting knowledge and skill sets required to assume the overall responsibilities of administration and management of security of an information system. This course covers issues related to administration, management and governance of security of information systems. Topics include auditing and data management, risk management (risk identification, risk analysis, risk control), contingency planning, incident handling and risk governance. The course will study in detail principles and tools related to these topics. The course will also cover security standards, evaluation and certification process, security planning, ethical and legal issues in information and privacy.

UNIVERSITY COURSES

UBSS6013 Organization Behavior & Development

This course helps students integrate behavioral science theories, tools, concepts, and techniques learned in the lab to an OB application in a "real" organization. Students are expected to conceptualize and apply Organization Behavior three-level of analysis and synthesize it with the theory and practice of Planned Change for individuals, groups and organizations. Throughout the course, participants are exposed to the important topics central to behaviors of organization and its holistic process for development and change. Some of the topics include multiple views of organizations that influence organizational change, the evolution of organizational development and its challenges. The course also covers the nature of planned change, theories and types of change, the role of values and ethics in organizational change, and the concept of emergent change to enable participants to have an overall view of how available approaches to planned change management can be applied in organizational settings.

UBSS6023 Business Ethics, Responsibility and Sustainability

This course aims to provide students the fundamental knowledge about the role of organizations in a society and to develop their skills to sustainably manage organizations that integrate legal, ethical, economic, environmental, and social dimensions into their decision-making. The course intends to develop responsible managers who have high integrity, professionalism and interpersonal skills. The course will also teach strategies on how managers can promote responsible conducts in their companies. The course objectives will be achieved through various teaching and learning methods specifically through critical examination of case studies involving ethical issues and dilemmas on complex and controversial business problems. This course is integrative in nature built upon the understanding and reflection of the main disciplines covered in the core courses in the MBA program.

UHMS 6013 SEMINAR ON GLOBAL DEVELOPMENT, ECONOMIC AND SOCIAL ISSUES

This course focuses on different approaches to economic development with particular reference to economic growth. Discussion on this course also includes issues related to globalization, technology and digital divides as well as the social crisis that has become a global concern. It aims in developing skills in understanding and analyzing global issues and recommending relevant solutions. Issues will be discussed in details.

UHMZ 6023 Malaysian Society & Culture

This course is designed for international postgraduates. This course discusses on the various aspects of the Malaysian culture and society. Topics on belief system, religious festivals, customs and etiquettes of different ethnic groups in Malaysia will be introduced to the students. In addition, students will also be been introduced to the Malay Language. At the end of the course students should be able to understand the cultures practiced among Malaysians and adapt themselves to these new cultures.

UHISS 6013 Philosophy of Science and Civilization

This course discusses the meaning and nature of the philosophy of science and civilization. It seeks first to explore the different denotation, connotation, and cognitive substance of philosophy, science, and civilization, as independent concepts. It then seeks to understand these

terminologies individually in their historical perspectives and their relationship to each other. Understanding the meaning and import of culture is necessary to our understanding of civilization. The study of the nature and meaning of religion is therefore significant in our appreciation of culture and civilization. Historically, Islam and the Muslims have always been intricately connected to the Western world. Thus, the discussion also includes comparative studies of Islamic and western philosophy and universal values. The final discussion is about the contribution of Islam to the world's civilization, education, culture and scientific development.

UHPS 6013 Dynamics of Leadership

This course is intended to encourage students discover and develop their personal leadership qualities. Students will be exposed to leadership theories so that they could develop an insight that leadership itself is a dynamic relationship based on mutual influence and common purpose between leaders and followers. Topics covered include Introduction to Leadership, Leadership Traits & Ethics, Leadership Behavior and Motivation, influencing: Power, Politics, Networking and Negotiation, Contingency Leadership Theories, Communication, Coaching, and Conflict Skills, The Leader- Follower Relationship, Team Leadership, Leading Self-Managed Teams, Transformational and Level 5 Leadership. Students will be evaluated based on their class leadership role, short talk and personal learning portfolios

UHLM 6013 Malay Language for Post Graduates

Kursus ini ditawarkan kepada pelajar antarabangsa program Sarjana dan Doktor Falsafah dari rumpun Melayu seperti Indonesia, Brunei, Selatan Thailand dan Melayu-Singapura. Dalam kursus ini pelajar diberi pendedahan tentang penulisan karya ilmiah. Perkara yang menjadi fokus kursus ini adalah aspek ejaan, tanda baca, ragam ayat, laras bahasa, penulisan perenggan dan gaya penulisan. Di samping itu pelajar akan didedahkan dengan format-format penulisan seperti penulisan literatur, kutipan, bibliografi, abstrak dan penyuntingan.

URTS 6013 Environmental Ethics

Environmental ethics is the discipline in philosophy that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its nonhuman contents. It covers the challenge of environmental ethics to the anthropocentrism (i.e., human-centeredness) embedded in traditional western ethical thinking; the early development of the discipline in the 1960s and 1970s; the connection of deep ecology, feminist environmental ethics, and social ecology to politics; and the attempt to apply traditional ethical theories, and virtue ethics, to support contemporary environmental concerns. It focusses on environmental literature on wilderness, and possible future developments of the discipline.

UECS 6013 IT Project Management

This course presents a hands-on perspective to Information Technology project management. This course will assist post-graduate students to plan and implement their post-graduate projects as well as other IT projects effectively. The subject is organized into three main sections, that covers I) Basic concepts, life cycle and framework of project management II) Detailed description of each project management knowledge areas under the Project Management Institute (PMI) Body of Knowledge (PMBOK) and its applications, and III) Real Project Initiation, Planning, Executing, Monitoring and Closing. The Project Management areas include – project integration, scope, time, cost, quality, human resource, communications, risks and procurement

management. Students will also be utilizing latest tools for understanding, reviewing, communicating and developing Business Model for a project. Teams of students are expected to perform real projects and achieve agreed Key Performance Indicators (KPI).

UECS 6023 Introduction to Technopreneurship

This course provides an overview of the basic concepts on entrepreneurship focusing on the nature, environment, and risks of new venture formation and building of businesses with IT in the Malaysian context. Students will learn on how to analyze and evaluate the business opportunities using knowledge and skills taught in this course and suggest innovative business ideas, business planning, self-assessment and operating strategies required to start a new small business. Students will also be exposed to current case studies of existing companies involved in the IT business. Active participation by students during class discussions and activities is encouraged & expected so that students can gain hands on experience with conducting research, develop, write, evaluate, presenting and defending segments of a business plan.

UMJJ 6013 Basic Japanese Language & Culture

students will be introduced to a simple yet useful familiar everyday expressions and very basic phrases using basic grammars to develop oral communication skills for social purposes. This course is suitable for beginners who wish to develop basic conversational skills in a short period. E-learning will be introduced and students must complete some Kana and communication courses within the time frame by self-learning. After this course, students are expected to speak common phrases in different situations and make simple conversation in Japanese language.

MASTER PROJECT

MECC1233 Innovative Computing Project I

This is the initial part of a 2-part Master project that every student must fulfil successfully. Students are required to propose a suitable research topic under the supervision of a lecturer as a supervisor. Students must meet regularly with supervisor who will monitor their continuous progress. At the end of this course, students are required to prepare a report and present their proposal.

MECC1316 Innovative Computing Project II

This is the second part of a 2-part Master project that every student must fulfil successfully. In this installation, students are required to execute the next phases of their development plan from Part1. Students are now required to code and integrate the different modules that make up the proposed project. Students will test the developed modules and the final fully-integrated project following software development and research testing practices. Students must meet regularly with supervisor(s) who will monitor their continuous progress. Students are required to prepare a report and present their final work.