



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

2024/2025

POSTGRADUATE ACADEMIC GUIDEBOOK

Faculty of Built Environment and Surveying



POSTGRADUATE ACADEMIC GUIDEBOOK

Academic Year 2024/2025

Faculty of Built Environment and Surveying

Universiti Teknologi Malaysia

builtsurvey.utm.my

Every effort has been made to include updated information in this guidebook at time of printing. The faculty reserves the right to amend any information from time to time as deemed necessary.

This guidebook contains brief information on the programmes offered by the faculty. Detailed information on academic matters can be obtained from the following documents:

- Buku Peraturan Mahasiswa
- Universities and University Colleges Act 1971 Universiti Teknologi Malaysia (Discipline of Students) Rules 1999
- UTM Academic Rules of Graduate Studies 2020
- Postgraduate Research Procedure (ProPS 06)

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UNIVERSITI TEKNOLOGI MALAYSIA

The University's Philosophy, Vision, Mission and Motto

Philosophy

The divine law of Allah is the foundation of knowledge. In line with His Will, UTM strives with total commitment to attain excellence in science, technology and engineering for the well-being and prosperity of mankind

Vision

A Premier University Providing World-Class Education and Research

Mission

To Develop Holistic Talents and Prosper Lives Through Knowledge and Innovative Technologies

Motto

In the Name of God for Mankind

Core Values

Integrity | Synergy | Excellence | Sustainability

FACULTY OF BUILT ENVIRONMENT AND SURVEYING

The Faculty's Vision, Mission, Theme and Core Values

Vision

To be the faculty of choice for education and professional development in built environment

Mission

We strive to develop professionals who are responsible towards shaping sustainable built environment through synergistic partnership with the industries, professional bodies and alumni

Theme

Professional Built Environment Education for Sustainable Development

Core Values

Creative | Progressive | Collaborative | Inclusive | Sensitive

01 FOREWORD BY THE DEAN

Welcome to the Faculty of Built Environment and Surveying (FABU) at Universiti Teknologi Malaysia (UTM). This Guidebook contains valuable information regarding the academic programs offered by the Faculty.

The Faculty stands as one of the foremost institutions providing undergraduate and postgraduate programs in the Built Environment and Surveying field within Malaysia. It boasts a comprehensive array of undergraduate degree offerings encompassing Architecture, Urban and Regional Planning, Quantity Surveying, Landscape Architecture, Construction, Land Administration and Development, Geomatics Engineering, Geoinformatics, and Real Estate. These programs hold accreditation from various national and international professional bodies, affirming their quality. Both the undergraduate and postgraduate programs offered by the Faculty have earned strong reputations among employers, reflecting their well-established nature. Furthermore, the Faculty maintains robust connections with industry stakeholders, facilitating numerous successful careers for our students. Notably, the recent release of the QS World University Rankings by Subject has positioned the Faculty among the top 100 worldwide—a remarkable accomplishment for our institution.

The Faculty places a strong emphasis on amalgamating academic knowledge with the practical skills essential for professional proficiency. Beyond the conveyance of technical expertise, the acquisition of generic skills holds significant importance, equipping graduates to compete effectively in the job market and thrive in their future endeavors. Consequently, our courses comprehensively incorporate the development of these generic skills. As a testament to our commitment, the Faculty has consistently achieved one of the highest Graduate Employability rates within UTM, with our graduates often earning premium salaries in recognition of their exceptional qualifications and preparedness for the workforce.

In today's intricate and ever-evolving world, international exposure stands out as a crucial determinant of success. Hence, it is imperative for students to cultivate an understanding of foreign cultures and policies to broaden their awareness and gain insights into diverse facets of global issues and challenges. The prospect of gaining such exposure is seamlessly integrated into the University's academic framework through various internationalisation initiatives, including global outreach, overseas internships, service-learning, and summer school programs. Consequently, the Faculty strongly encourages its students to actively engage in at least one of these internationalisation programs during the course of their studies, ensuring they are well-prepared for the global landscape.

As a Research University, the Faculty is committed to ensuring that its curriculum effectively incorporates critical thinking and problem-solving abilities, creativity, and innovations in the field of Built Environment and Surveying. This emphasis provides graduates with opportunities to augment their knowledge and refine their systematic research skills, should they choose to pursue postgraduate studies within the Faculty.

I hope that students will actively participate in the academic activities organised by the Faculty while also embodying a constructive work culture rooted in positive moral values. This approach will help nurture leadership qualities, foster teamwork, and enhance individual generic skills. It's worth noting that such involvement is not only pivotal for individual academic excellence but also plays a significant role in contributing to the advancement of the nation, fostering its development on social, cultural, and political fronts.

If you have any concerns or require further information, I encourage you to explore the Faculty's website at builtsurvey.utm.my or seek guidance and advice from your academic advisors, lecturers, or the faculty's administrative staff. They will be able to provide valuable assistance and address any inquiries you may have. I genuinely wish for you to relish your time at the Faculty, with the anticipation that the education you receive here will equip you for a successful future, allowing you to become an outstanding alumni.

Dean

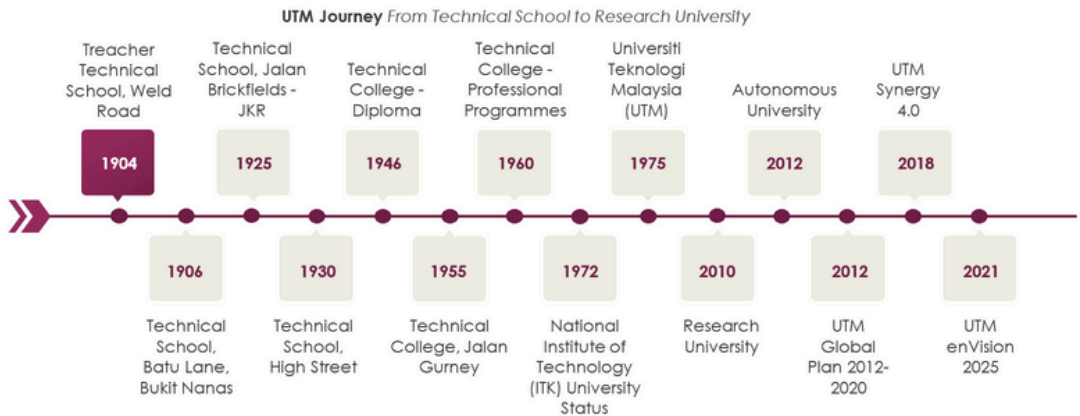
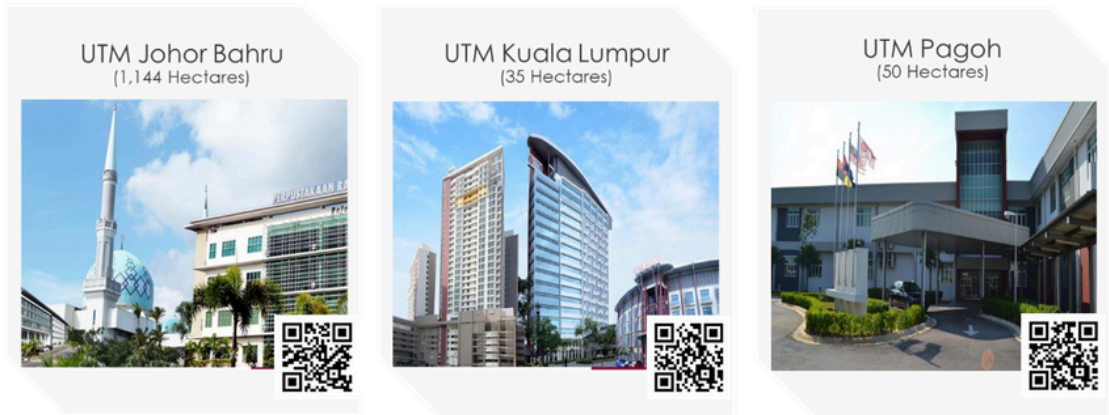
Professor Sr Dr. Kherun Nita Ali



02 INTRODUCTION

1. UNIVERSITI TEKNOLOGI MALAYSIA

Universiti Teknologi Malaysia (UTM) is the largest engineering-based university in Malaysia offering a variety of programmes for all levels of tertiary education. The main campus is located in Johor Bahru; a tropical campus in the south of Peninsular Malaysia. The city campus is located in Kuala Lumpur; the capital city of Malaysia and the Agri Campus is in Pagoh, located in the northern part of Johor, within Pagoh Education Hub.



UTM in Numbers

| Enrolment (MyMOHES) | | Staff | Alumni | |
|---------------------|---------------------------------------|--------------|--------------------------------|------------------------------------|
| 25,679 | Undergraduate & Postgraduate Students | 4,823 | All Staff | 203,146 Alumni |
| 3,517 | Master Students | 1,568 | Academician | 9,342 International Alumni |
| 4,782 | PhD Students | 1,535 | Academician with PhD | 87 Countries |
| 4,930 | International Students | 3,255 | Professional and Support Staff | 99 % Graduate Employability |

Campus Experience

| | | | |
|---------------|--|---------------|--|
| 27,784 | Outbound Mobility Students (since 2009) | 4,125 | Students Involved in Job on Campus Programme (since 2016) |
| 17,509 | Inbound Mobility Students (since 2009) | 28,958 | Students Involved in Service-Learning Programme |
| 16,418 | Students involved in Entrepreneurship Activities | 312 | Students involved in 5 Excellence Track Programme (since 2011) |

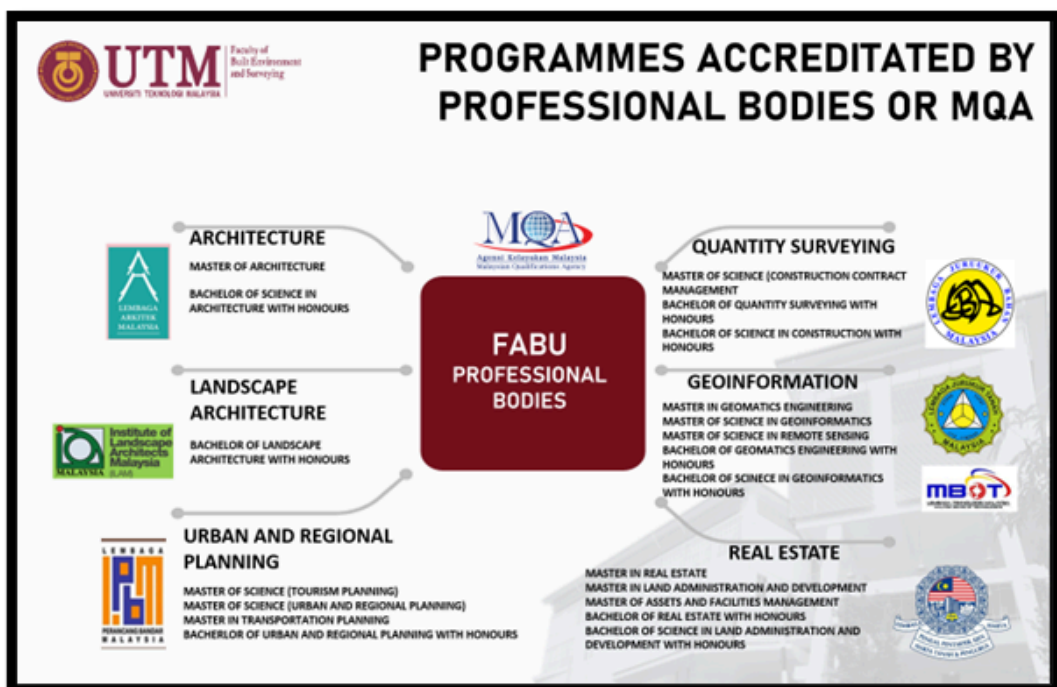
FACULTY OF BUILT ENVIRONMENT AND SURVEYING

The Faculty of Built Environment and Surveying (FABU) emerged in 2018 through the synergistic merging of two faculties: the Faculty of Built Environment (FAB) and the Faculty of Geoinformation and Real Estate (FGHT). FABU currently offers a total of 44 programmes comprising of 9 undergraduate programmes, 11 master programmes, 1 master by research and 1 doctorate-by-research programmes. These programmes span over 6 built environment fields of Architecture, Landscape Architecture, Quantity Surveying, Geoinformation, Real Estate, and Urban and Regional Planning.

With the tagline “FABULOUS!”, FABU boasts a unique blend of outstanding academic performance and active involvement in the practical world, made possible by forward-thinking educational programmes and strong collaborations with industry leaders and alumni.

FABU is made strong by a total of 180 academics and 89 support staff (PPP) who are dedicated to the pursuit of excellence, guided by five core values: CREATIVE, PROGRESSIVE, COLLABORATIVE, INCLUSIVE, and SENSITIVE. FABU strives to become the preferred destination for individuals seeking high-quality professional education and to generate graduates of exceptional calibre.

FABU is consistently ranked among the Top 100 in the QS World University Ranking by Subject (Architecture and Built Environment) and holds the number one position in Malaysia since the past 10 years. FABU also have strong academic reputation with significant research contributions and recognition from professional bodies.



03 EXECUTIVE COMMITTEE MEMBER

ORGANISATIONAL STRUCTURE



Faculty of Built Environment and Surveying Executive Committee Members 2024

| MANAGERS | | | DEAN | DEPUTY DEANS | | DEPUTY REGISTRAR | | |
|---|---|---|---|--|--|---|---|---|
|  |  |  |  |  |  |  | | |
| Assoc. Prof. Sr Gs Dr. Nurul Nazrina binti Isah External and Global Relations Manager | Dr. Nodiza binti Mohd Isa Quality and Strategy Manager | Dr. Shahabudin bin Abdulrah External Program Academic Manager | Prof. Sr Dr. Kherun Nita binti AE | Dr. Syed Muhammad Rafy bin Syed Jaafar Research, Innovation & Development (Acting) | Assoc. Prof. Lir Dr. Sapura binti Mohamad Academic & Student Affairs | Maimunah Eini Salleh | | |
| HEAD OF DEPARTMENTS | | | | | | ASSISTANT REGISTRAR | SENIOR ASSISTANT REGISTRAR | |
|  |  |  |  |  |  |  |  |  |
| Assoc. Prof. Tjy Dr. Siti Hajar binti Misnan Urban & Regional Planning | Assoc. Prof. Ar Dr. Um Yolk Wah Architecture | Dr. Lee Yoke Lal Landscape Architecture | Sr Dr. Zuhaili bin Ramly Quantity Surveying | PMgr Sr Dr. Aizatza binti Ismail Real Estate | Sr Gs Dr. Othman bin Zaman Geoinformations | Zolton binti Othman Human Resource | Nurathina binti Mohamad Marjia Undergraduate | Nurum Nazrah binti Ahmad Postgraduate |

CREATIVE | PROGRESSIVE | COLLABORATIVE | INCLUSIVE | SENSITIVE

www.utm.my

POSTGRADUATE COORDINATORS

| Program Coordinator (Research) | | | |
|--------------------------------|--|-------------------------------------|--|
| No. | Name | Programme / Field of Research | Email Address |
| 1 | Assoc. Prof. Dr. Roshida binti Abdul Majid | Architecture | b-roshida@utm.my |
| 2 | Assoc. Prof. Sr Dr. Mohd Saidin bin Misnan | Quantity Surveying | b-saidin@utm.my |
| 3 | Ts Dr. Zuhra Junaida binti Mohamad Husny Hamid | Transportation Planning | zjunaida@utm.my |
| 4 | Dr. Khairul Hisyam bin Kamarudin | Urban and Regional Planning | khisyam.kl@utm.my |
| 5 | Dr. Siti Nur Hannah binti Ismail | Landscape Architecture | sitinurhannah.i@utm.my |
| 6 | Dr. Mustafa bin Omar | Real Estate | mustafaomar@utm.my |
| 7 | Dr. Wee Siaw Chui | Facilities Management | scwee@utm.my |
| 8 | Dr. Nur binti Berahim | Land Administration and Development | nur.berahim@utm.my |
| 9 | Dr. Noordiyana binti Hassan | Remote Sensing | noordiyana@utm.my |
| 10 | Dr. Norhakim bin Yusoff | Geoinformatics | norhakim@utm.my |
| 11 | Dr. Aimi binti Musa | Geomatics Engineering | aimi.musa@utm.my |

| Program Coordinator (Taught Course) | | | |
|-------------------------------------|--------------------------------------|---|--|
| No. | Name | Programme / Field of Research | Email Address |
| 1 | Sr Dr. Alvin Lau Meng Shin | Master of Science in Remote Sensing | alvinlau@utm.my |
| 2 | Dr. Mohd Alif bin Mohd Puzi | Master in Tourism Planning | mohdalif@utm.my |
| 3 | Dr. Farrah Azwanee binti Aminuddin | Master in Construction Contract Management | farrahazwanee@utm.my |
| 4 | Dr. Mohamad Fadhli bin Rashid | Master of Science (Urban and Regional Planning) | m.fadhli@utm.my |
| 5 | Sr Dr. Mohammad Hanif bin Hamden | Master in Geomatics Engineering | mohammad.hanif@utm.my |
| 6 | Sr Dr. Muhammad Hafiz bin Mohd Yatim | Master in Geomatics Engineering (Offshore) | muhammadhafiz.my@utm.my |
| 7 | Dr. Nabila binti Abdul Ghani | Master in Transportation Planning | nabilaaghani@utm.my |
| 8 | Dr. Siti Zaleha binti Daud | Master in Real Estate | sitizalehadaud@utm.my |
| 9 | Dr. Maryanti binti Mohd Raid | Master in Land Administration and Development | maryanti@utm.my |
| 10 | Dr. Muhamad Amir Afiq bin Lokman | Master of Asset and Facilities Management | muhamadamirafiq@utm.my |
| 11 | Sr Ts Dr. Muhammad Imzan bin Hassan | Master of Science in Geoinformatics | imzan@utm.my |
| 12 | Dr. Nor Izura binti Tukiman | Master of Architecture | izura@utm.my |
| 13 | Ts Dr. Leng Pau Chung | Master of Architecture (Offshore) | pcleng2@utm.my |

04 POSTGRADUATE PROGRAMMES

TAUGHT COURSE PROGRAMME

1. Master of Architecture
2. Master in Construction Contract Management
3. Master in Tourism Planning
4. Master in Transportation Planning
5. Master of Science (Urban and Regional Planning)
6. Master in Geomatics Engineering
7. Master of Science in Geoinformatics
8. Master of Science in Remote Sensing
9. Master in Real Estate
10. Master in Land Administration and Development
11. Master of Assets and Facilities Management

RESEARCH PROGRAMME

- Doctor of Philosophy (PhD)
- Master of Philosophy (MPhil)

FIELDS:

1. Architecture
2. Transportation Planning
3. Urban and Regional Planning
4. Quantity Surveying
5. Landscape Architecture
6. Facilities Management
7. Land Administration and Development
8. Real Estate
9. Geomatics Engineering
10. Remote Sensing
11. Geoinformatics

05 MASTER OF ARCHITECTURE

1. INTRODUCTION

The Master of Architecture Program is a professional degree equivalent to the professional qualification of the Board of Architects Malaysia Part II. It is a continuation of the Board of Architects Malaysia Part I, which is addressed in the Bachelor of Science in Architecture with Honours (B.Sc. Arch. Hons.) program in UTM. The program is a taught Master Program and as such there is a structured curriculum with an emphasis on more research-based architectural design studio projects. This focus enables a more intellectual and theoretical basis in the architectural projects addressed within the program and at the same time contributes to the development of architecture within the National framework; that emphasises on the sustainable development. The focus on research-based is an addition to the technical, scientific and technological considerations that are already embedded in the courses. The Master of Architecture program is recognised by the Board of Architects Malaysia (LAM), Malaysian Institute of Architects (PAM) and the Public Services Department (JPA). The architecture program in UTM is the first in the country acknowledged by PAM and LAM. The preceding 3 years Bachelor of Science in Architecture is accredited for LAM Part I, and this 2 years Master of Architecture is accredited for Part II. UTM degree holders in Master of Architecture with 2 years relevant working experience are eligible to sit for the LAM Part III examination in order to be registered as a professional architect.

2. NAME OF AWARD

Master of Architecture [M. Arch.]

3. ENTRY REQUIREMENT

Candidate must fulfil the general conditions of university and specific programme requirement according to one of the following

1. Bachelor of Science in Architecture/Degree in Architecture (LAM Part 1) or equivalent with a CPA of 3.0 and above; completed at least 6 months of practice in an architectural firm after graduating with a LAM Part 1
- OR
2. Bachelor of Science in Architecture/Degree in Architecture (LAM Part 1) or equivalent with a CPA 2.7 to 2.99; completed at least 12 months of practice in an architectural firm after graduating with a LAM Part 1
- OR
3. Bachelor of Science in Architecture/Degree in Architecture (LAM Part 1) or equivalent with a CPA 2.5 to 2.69; completed at least 24 months of practice in an architectural firm after graduating with a LAM Part 1
- OR
4. Bachelor of Science in Architecture/Degree in Architecture (LAM Part 1) or equivalent with a CPA 2.3 to 2.49; completed at least 36 months of practice in an architectural firm after graduating with a LAM Part 1.

Screening Process

1. The first screening process will be made after the candidate submit the online application form and related documents to UTM.
2. Only the selected candidates will undergo a program interview as part of the selection process.
3. International candidates must obtain LAM Part 1 certificate before they apply for the Master of Architecture UTM (for more information, please visit <https://www.lam.gov.my>)

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Knowledgeable and competent in line with the professional qualification of Board of Architect Malaysia Part II.
- PEO2 Scholarly in research and solve problems critically, analytically and creatively based on scientific facts and sound ideas.
- PEO3 Professional, ethical, responsible and responsive to the values of humanity and sustainability.
- PEO4 Proficient in communication and contribute to working teams as well as competitive in various local and global market.

5. PROGRAMME LEARNING OUTCOMES

- PLO1 Integrate scholarly knowledge in architecture and the built environment relevant to established vision.
- PLO2 Identify, analyse and integrate architectural knowledge from various sources in producing potential solutions.
- PLO3 Produce feasible solutions with consideration of appropriate design approach, process using effective architectural presentation.
- PLO4 Capable of working in a team and negotiate responsibly, adapting in various working environments and time conditions.
- PLO5 Convey ideas and explain architectural solutions clearly and appropriately in verbal and written form to a given audience.
- PLO6 Adopt and operate a broad range of digital tools for knowledge sourcing, information processing and formulating potential solutions.
- PLO7 Comply to values set in architectural standards, regulations, guidelines, parameters and universal conventions.
- PLO8 Demonstrating ability to lead and manage cooperatively towards fulfilling pre-determined goals through effective decision making and capacity-building.
- PLO9 Adapt to the changing environments, engage in continuous learning, employing new knowledge and skills to address new challenges in the context of professional development.
- PLO10 Exhibit entrepreneurial skills in architectural or related creative endeavours.
- PLO11 Interpret collective responsibilities of architects in general and codes of architectural ethics particularly within the framework of accountability of architecture towards humanity

6. MODE AND DURATION OF STUDY

Mode of Study : Full-time
 Minimum Duration : 2 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

Courses offered under this programme are based on the classification scheme shown in the table below:

| Classification | Course Group | Credits | Total credit hours | Percentage |
|---------------------------------------|-------------------------------|---------|--------------------|------------|
| 1. Programme Core | A. Design | 27 | 51 | 70 |
| | B. Communication | 9 | | |
| | C. Cultural Context | 3 | | |
| | D. Management Practice & Law | 6 | | |
| | E. Technology and Environment | 6 | | |
| 2. Elective Courses | F. Elective Courses | 3 | 3 | 5 |
| 3. General Courses | G. General Courses | 6 | 6 | 10 |
| Total credit hours to graduate | | | 60 | 100 |

8. AWARD REQUIREMENTS

To be eligible to graduate from this programme, students must complete a total of 60 credit hours, accumulated from courses that are set according to the classification scheme shown above, with a minimum CGPA of 3.00 and have completed all the relevant courses within the time allowed.

9. LIST OF COURSES

The students are assigned to a specific grouping before the registration of courses. Each student is required to register all the courses within the same grouping, except the elective courses (marked with *) that need to be chosen only one (3 credit) from the elective groupings. The students can only register to a maximum of 18 credits only depending on each semester requirement.

Grouping 1

| Courses | Course Group | Prerequisite | Credit | Total Credit |
|--|--------------|--------------|--------|--------------|
| MBEA1116 Design Pre-Thesis 1 | A | | 6 | 18 |
| MBEA1303 Research Methodology | B | | 3 | |
| MBEA1213 Socio Culture | C | | 3 | |
| MBEA2423 Professional Practice | D | | 3 | |
| UHS6013 Philosophy of Science and Civilisation | G | | 3 | |

Grouping 2

| Courses | Course Group | Prerequisite | Credit | Total Credit |
|--|--------------|--------------|--------|--------------|
| MBEA1126 Design Pre- Thesis 2 | A | | 6 | 15 |
| MBEA1323 Architectural Writing and Publication | B | MBEA 1303 | 3 | |
| MBEA1223 Urbanism | E | | 3 | |
| UHAP6013 Seminar on Global Development, Economics and Social Issues. | G | | 3 | |

Grouping 3

| Courses | Course Group | Prerequisite | Credit | Total Credit |
|-----------------------------------|--------------|--------------|--------|--------------|
| MBEA1136 Design Pre- Thesis 3 | A | | 6 | 15 |
| MBEA2333 Dissertation | B | MBEA1323 | 3 | |
| MBEA1233 Sustainable Technologies | E | | 3 | |
| MBEA1413 Contract and Law | D | | 3 | |

Grouping 4

| Courses | Course Group | Prerequisite | Credit | Total Credit |
|------------------------|--------------|----------------------------------|--------|--------------|
| MBEA2149 Design Thesis | A | MBEA1116 MBEA1126 MBEA1136 | 9 | 12 |
| MBEAXXX3 Elective | F | | 3 | |

10. LIST OF ELECTIVE COURSES

| Courses | Course Group | Prerequisite | Credit | Total Credit |
|--|--------------|--------------|--------|--------------|
| 1.MBEA1513 Space Syntax ¹ | F | | 3 | 33 |
| 2.MBEA2653 Outreach ¹ | F | | 3 | |
| 3.MBEA1523 Advanced Architectural Computing ¹ | F | | 3 | |
| 4.MBEA1563 Green Building Design ¹ | F | | 3 | |
| 5.MBEA1573 Architecture and Human Behaviour ¹ | F | | 3 | |
| 6.MBEA1533 Measured Drawing ¹ | F | | 3 | |
| 7.MBEA1553 Advance Arch Tech & Construction ¹ | F | | 3 | |
| 8.MBEA1543 CADD & BIM ¹ | F | | 3 | |
| 9.MBEA1583 Current Issues in Architectural Practice ¹ | F | | 3 | |
| 10.MBEA2613 Competition ¹ | F | | 3 | |
| 11.MBEA2633 Management ¹ | F | | 3 | |

¹ Students need to choose only one (1) course.

06 MASTER OF SCIENCE (URBAN AND REGIONAL PLANNING)

1. INTRODUCTION

This programme covers the core spatial planning knowledge as well as research and generic skills necessary to be required to be a competent and innovative urban and regional planner. Students are taught to understand and appreciate social, economic and political processes that shape cities and regions, and ways in which public policy can improve the quality of life. Ideas and concepts such as sustainability, urban governance, and regional economic development form the basis of the courses in the programme.

2. NAME OF AWARD

Master of Science (Urban and Regional Planning)

3. ENTRY REQUIREMENT

University Requirement

Have a minimum qualification of a Bachelor's Degree with a CGPA of 3.00 in a related field or the equivalent by a recognized University in accordance with the basic conditions of admission based on the Guidelines for the Evaluation of Admission Requirements 1998 Revised. 1/2013.

Faculty Requirement

- a. Bachelor's Degree in Urban and Regional Planning with honors at Universiti Teknologi Malaysia or any higher education institution recognized by the Senate; or
- b. Candidates who have a Bachelor's Degree with a GPA < 3.00 must have 2 years of work experience in a related field or have a Bachelor's degree with a GPA > 2.00 < 2.50 need 5 years of work experience in a related field.
- c. English Language Requirements (for international students):

The minimum requirements for English language level B2 CEFR (Common European Framework of Reference for Language) in accordance with the Higher Education circular which are:

- a. IELTS Band 6.0 and above
- b. TOEFL iBT score of 60 and above
- c. Cambridge English Qualifications (CEQ) B2 First, C1 Advanced, C2 Proficiency Score of 169 and above
- d. PTE Academic Score of 59 and above
- e. Malaysian University Entrance Test (MUET) Band 4 and above
- f. Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2

Mandatory English language requirements for international students who have completed a Bachelor’s Degree and equivalent to a Malaysian Public University.

Exceptions are granted to:

- i. International students from countries where English is the official medium of instruction.
- ii. International students using academic qualifications from institutions in countries where English is the official medium of instruction.

For international students who do not meet the English language competency requirements. Students are considered for conditional offers as follows:

- i. Follow the English preparatory course set by UTM
- ii. Students who follow the English preparatory course set by UTM must sit for The Common European Framework of Reference (CEFR) exam with a minimum score of B2.

Admission requirements for APEL candidates (APEL T-7)

- a. Malaysian citizens
- b. Be 30 years old at the time of application and have at least STPM/Diploma/Matriculation Certificate or equivalent
- c. Relevant work experience

The nomination conditions for Malaysian citizens who have an APEL T-7 certificate can be taken into account for the purpose of admission, ie Applicants must get 60% from the entire test (Aptitude Test (40%), Portfolio Test (50%) and Interview (10%).

Related fields that have been registered under APEL: Built Environment and Surveying (please refer to <https://www2.mqa.gov.my/portalapela/BidangT7.cfm>)

The hearing impaired category is admitted to this program.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Demonstrate an understanding of the complex theories and principles of urban and regional planning as well as the scope and role of planning in the management of growth and change;
- PEO2 Apply a range of analytical skills and techniques that are designed to address a range of complex problems;
- PEO3 Apply the knowledge, skills and understanding to the achievement of feasible solutions to planning problems;
- PEO4 Work in a multidisciplinary team and contribute to society.
- PEO5 Comply with ethics, professional and community standards, and involve in life-long learning.

5. PROGRAMME LEARNING OUTCOMES

- PO1 Master key urban and regional planning principles and practice at local and strategic level
- PO2 Adaptability in applying urban planning methods and techniques across a variety of urban planning contexts and practice
- PO3 Relate urban planning ideas and solutions to societal issues in the diverse urban planning practice environment.
- PO4 Undertake research in urban planning and related fields with minimal supervision and adhere to legal, ethical and professional codes of practice.
- PO5 Lead and communicate effectively with peers and stakeholders in facing challenges within the diverse urban planning environment
- PO6 Demonstrate critical thinking and scientific approach to effective management of urban planning issues and challenges
- PO7 Demonstrate competency in managing information required for lifelong learning.

6. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
- Minimum Duration : 1 ½ years
- Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Credit Hours | Percentage |
|---|--------------|------------|
| 1. Programme Core | 22 | 49 |
| 2. Programme Elective | 12 | 27 |
| 3. Master Project/Dissertation/Thesis | 5 | 11 |
| 4. Compulsory University Courses (including Research Methodology) | 6 | 13 |
| Total | 45 | 100 |

8. AWARD REQUIREMENTS

For the award of Master of Urban and Regional Planning, the students should achieve a total minimum of 45 credit hours with minimum CGPA of 3.00, including the completion of a Research Project.

9. LIST OF COURSES

Semester 1

| Courses | Credit | Total Credit |
|--|--------|--------------|
| MBEW1015 Land Development Process Studio | 5 | 17 |
| MBEW1023 Sustainable Land Use Planning | 3 | |
| MBEW1033 Contemporary Planning Theory | 3 | |
| MBEW1103 Urban Governance & Management | 3 | |
| MBEW1063 Spatial Analysis Tools (GIS) | 3 | |

Semester 2

| Courses | Credit | Total Credit |
|---|--------|--------------|
| MBEW1085 Planning Workshop | 5 | 17 |
| MBEW1093 Methods of Planning Analysis | 3 | |
| MBEW1073 Planning for Contemporary Social Issues/ MBEW1113 Economics and the Environment *Choose one (1) course | 3 | |
| MBEW1123 University Course – Research Methodology | 3 | |
| UXXX6XX3 University General Course | 3 | |

Semester 3

| Courses | Credit | Total Credit |
|---|--------|--------------|
| MBEW2135 Research Project | 5 | 11 |
| MBEW1053 Rural Community & Culture/ MBEW1043 Sustainable Transportation Planning/ MBEW2143 Negotiation in Planning* Choose two (2) courses | 6 | |

07 MASTER IN CONSTRUCTION CONTRACT MANAGEMENT

1. INTRODUCTION

The Master in Construction Contract Management program is designed to equip professionals with advanced knowledge and skills in managing complex contractual arrangements within the construction industry. The curriculum offers a comprehensive exploration of key areas including Construction Contract Studies, Procurement, and Project Management, complemented by specialized courses in Arbitration, Alternative Dispute Resolution, and Construction Law. Students will gain a thorough understanding of the legislative framework governing the construction industry and the intricacies of contract administration, dispute resolution, and sustainable development. With a strong emphasis on practical applications, research methodologies, and project development, this program prepares graduates to effectively navigate and manage the multifaceted challenges of modern construction projects.

2. NAME OF AWARD

Master in Construction Contract Management

3. ENTRY REQUIREMENT

1. General Conditions of the University: The basic conditions of admission refer to the Guidelines for the Evaluation of Admission Conditions 1998 amendment 1/2013
2. Faculty Special Requirements (Bachelor's Degree): Bachelor's degree with good honors in a relevant field from Universiti Teknologi Malaysia or a higher education institution recognized by the UTM senate or
3. Faculty Special Requirements (Bachelor's Degree): Other qualifications equivalent to a bachelor's degree and experience in a relevant field recognized by the senate
 - CGPA/CGPA of at least 2.75
 - PGK/CGPA less than 2.75 or at least two (2) years of work experience or less than 2.50, at least five (5) years of work experience.

English Language Requirements (for international students):

1. IELTS with Band 6.0 and above; or
2. TOEFL (iBT) with a score of 60 and above; or
3. Cambridge English Qualifications (CEQ) Score B2 First, C1 Advanced, C2 Proficiency with a score of 169 and above; or
4. PTE Academic with a score of 59 and above; or
5. Malaysian University Entrance Test (MUET) Band 4 and above
6. Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2

Exemption from the English language requirement may be granted to graduates:

1. International students from countries that use English as the official Language of Instruction.
2. International students using academic qualifications from institutions in countries where English is the official medium of instruction.

Meanwhile, international students who do not meet the above requirements can take an Intensive English Program (IEP) course to improve their English proficiency at the Language Academy, UTM or a Certified Intensive English Program (CIEP) at any ELS Language Center in Malaysia for a maximum period of one year from the date of registration. After the student has finished, the student needs to sit for the MUET exam or any exam as stated in items (1) to (5) to enable the prospective student to be accepted to follow the main course of study at UTM.

Prerequisite Courses

No prerequisite course requirements are required for prospective students who do not meet the criteria.

APEL Terms

This program accepts admission requirements from candidates who have an Accreditation of Learning Experience Based on Previous Experience (APEL) certificate with admission to a Master's Degree program (APEL T-7) in the field of:

- Realm Build and Measure
- Hospitality and Tourism
- Hospitality, Tourism and Event Management
- Entrepreneurship
- Marketing
- Islamic Marketing
- Urban and Rural Development
- Conservation of Biodiversity
- Asset and Facility Management
- Supply Chain Management
- Islamic Business
- Sports and Recreation Science

Admission requirements for APEL candidates (APEL T-7) The basic conditions for entry through APEL A are as follows:

- Malaysian citizens
- Be 30 years old at the time of application
- Possess at least
- STPM/Diploma/Matriculation Certificate or equivalent
- Relevant work experience

Applicants must get 60% from the entire test (Aptitude Test (40%), Portfolio Test (50%) and Interview (10%).

Conditions of the disabled

For candidates with special needs, in addition to the stated conditions, the candidate's application may be considered subject to the level of special needs and disabilities, as well as compatibility with the requirements/specialization of the program.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Mastery of knowledge and competency in advanced areas of construction contract management;
- PEO2 Practice professionalism with high standards of ethical conducts within organization and society;
- PEO3 Responsive to the prevalent situation through constant advancement of current knowledge.

5. PROGRAMME LEARNING OUTCOMES

- PO1 Integrate the current concept and advanced knowledge on the principles and practices of construction contract management;
- PO2 Construct solutions to critical and complex issues in the practice of construction contract management by appraising the available concept and theories;
- PO3 Apply latest technical approaches to justify issues in construction contract management practice;
- PO4 Demonstrate adherence to role as a team member and to work collaboratively in various environments professionally;
- PO5 Communicate effectively in delivering the knowledge and ideas to specialist and non-specialist audience;
- PO6 Demonstrate digital literacy skill in the concept and application of system approach and strategic thinking;
- PO7 Adapt numerical and graphical data through critical evaluation using statistical tools;
- PO8 Display leadership, autonomy and responsibility traits in managing duties within broad organization;
- PO9 Cultivate self-advancement in academic and professional development continuously;
- PO10 Initiate strategic venture through entrepreneurial knowledge and technical skills;
- PO11 Perform professional responsibilities in accordance with stipulated legal, ethical and codes of practice;

6. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Total credit hours | Percentage |
|-------------------------|--------------------|------------|
| 1. University | | |
| a. General | 3 | 14.3 |
| b. Research Methodology | 3 | |
| 2. Programme Core | 21 | 46.4 |
| 3. Programme Electives | 12 | 24.4 |
| 4. Master Project | 6 | 14.6 |
| Total | 41 | 100 |

8. AWARD REQUIREMENTS

For the award of Master Construction Contract Management, the students should achieve a total minimum of 42 credit hours with minimum CPA of 3.0, including the completion of Research Project.

9. LIST OF COURSES

Semester 1

| Courses | Credit | Total Credit |
|---|--------|--------------|
| MBEC1033 Construction Contract Studies I | 3 | 18 |
| MBEC1013 Construction Project Management | 3 | |
| MBEC1043 Law of Contract, Tort, Agency & Sales of Goods | 3 | |
| MBEC1053 Land, Planning and Environmental Law | 3 | |
| MBEC1063 Construction Environment** | 3 | |
| MBEC1073 Construction Project Development** | 3 | |
| MBEC1163 Legislation in Construction Industry | 3 | |
| UXXX6XX3 University General Course | 3 | |

Semester 2

| Courses | Credit | Total Credit |
|--|--------|--------------|
| MBEC1113 Arbitration | 3 | 18 |
| MBEC1123 Alternative Dispute Resolution and Adjudication | 3 | |
| MBEC1133 Construction Contract Studies 2 | 3 | |
| MBEC1103 Construction Project Procurement | 3 | |
| MBEX1023 Sustainable Development for Built Environment and Surveying | 3 | |
| MBEX1013 Research Methodology | 3 | |

Short Semester

| Courses | Credit | Total Credit |
|---------------------------|--------|--------------|
| MBEC1176 Research Project | 6 | 6 |

Note:

** These are elective courses for students with LL.B. They may choose to take these subjects in lieu of MBEC1043 Law of Contract, Tort, Agency and Sales of Goods and MBEC1053 Land, Planning and Environmental Law

08 MASTER IN TRANSPORTATION PLANNING

1. INTRODUCTION

Proper movement of goods and people are essential to the country's development. For a developing country, the need for high quality transport and infrastructure facilities is vital to cater for both urban and rural development. The right policy and workable planning and engineering inputs are therefore very pertinent to the developing countries. To enhance professional understanding of the link between transport services, land use and economic development, the Department of Urban and Regional Planning is offering a Master in Transportation Planning tailored to the needs of developing nations.

2. NAME OF AWARD

Master in Transportation Planning

3. ENTRY REQUIREMENT

1. General Conditions of the University: The basic conditions of admission refer to the Guidelines for the Evaluation of Admission Conditions 1998 amendment 1/2013
2. Faculty General Requirements : Bachelor's degree with good honors in a relevant field from Universiti Teknologi Malaysia or a higher education institution recognized by the UTM senate or
3. Faculty Special Requirements : Other qualifications equivalent to a bachelor's degree and experience in a relevant field recognized by the senate.
 - CGPA/CGPA of at least 3.00
 - PGK/CGPA less than 3.00, at least two (2) years of work experience or less than 2.50, at least five (5) years of work experience.

English Language Requirements (for international students):

1. IELTS with Band 6.0 and above; or
2. TOEFL (iBT) with a score of 60 and above; or
3. Cambridge English Qualifications (CEQ) Score B2 First, C1 Advanced, C2 Proficiency with a score of 169 and above; or
4. PTE Academic with a score of 59 and above; or
5. Malaysian University Entrance Test (MUET) Band 4 and above
6. Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2

Mandatory English language requirements for international students who have completed a Bachelor's Degree and equivalent to a Malaysian Public University.

Exceptions are granted to:

- International students from countries where English is the official medium of instruction.
- International students using academic qualifications from institutions in countries where English is the official medium of instruction.

For international students who do not meet the English language competency requirements. Students are considered for conditional offers as follows:

- Follow the English preparatory course set by UTM
- Students who follow the English preparatory course set by UTM or Certified Intensive English Program (CIEP) from ELS Language Centre within maximum 1 year from the date of registration.

Admission requirements for APEL candidates (APEL T-7)

- Malaysian citizens
- Be 30 years old at the time of application and have at least STPM/Diploma/Matriculation Certificate or equivalent
- Relevant work experience
- The nomination conditions for Malaysian citizens who have an APEL T-7 certificate can be taken into account for the purpose of admission, ie Applicants must get 60% from the entire test (Aptitude Test (40%), Portfolio Test (50%) and Interview (10%).

The hearing and sight impaired category is not permitted to this program.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Mastery of knowledge and competency in advanced areas of transportation planning.
- PEO2 Professionalism with high standards of ethical conduct within organization and society.
- PEO3 Responsive to the current situation through continuous development of new knowledge and skills.

5. PROGRAMME LEARNING OUTCOMES

- PO1 Integrate advanced knowledge and concepts related to transportation planning.
- PO2 Construct solutions to complex issues in transportation planning.
- PO3 Apply contemporary tools and techniques in transportation planning.
- PO4 Work together and collaboratively with stakeholders in learning and working environments.
- PO5 Communicate effectively using appropriate methods or techniques with professionals and community.
- PO6 Use competently a wide range of suitable digital technologies and appropriate software to support learning in transportation planning.
- PO7 Evaluate numerical and graphical data in transportation planning using quantitative or qualitative.
- PO8 Demonstrate leadership, autonomy and responsibility in learning and working environment.
- PO9 Demonstrate self-advancement through continuous academic or professional development.
- PO10 Initiate entrepreneurial projects with relevant knowledge and skills.
- PO11 Demonstrate adherence to ethical code of practice and professionalism in dealing with relevant issues.

6. MODE AND DURATION OF STUDY

Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Credit Hours | Percentage |
|--|--------------|------------|
| 1. Programme Core | 23 | 56.2 |
| 2. Programme Electives | 6 | 14.6 |
| 3. Research Project | 6 | 14.6 |
| 4. Compulsory University Course (including Research Methodology) | 6 | 14.6 |
| Total | 41 | 100 |

8. AWARD REQUIREMENTS

For the award of Master in Transportation Planning, the students should achieve a total minimum of 41 credit hours with minimum CGPA of 3.00, including the completion of a Research Project.

9. LIST OF COURSES

Semester 1

| Courses | Credit | Total Credit |
|--|--------|--------------|
| MBEP1135 Transportation Planning Studio | 5 | 17 |
| MBEP1143 Freight Transportation | 3 | |
| MBEP1153 Transportation Data Analytics | 3 | |
| MBEX1023 Sustainable Development for Built Environment and Surveying | 3 | |
| UXXX6XX3 University General Course | 3 | |

Semester 2

| Courses | Credit | Total Credit |
|--|---------------|---------------------|
| MBEP1163 Public Transport System and Operation | 3 | 18 |
| MBEP1173 Transport Policy | 3 | |
| MBEP1183 Transport Network Analysis | 3 | |
| MBEP1193 Case Study in Transportation | 3 | |
| MBEX1013 Research Methodology in Built Environment and Surveying | 3 | |
| MBEPXXX3 Electives | 3 | |

Semester 3 (Short Semester)

| Courses | Credit | Total Credit |
|---------------------------|---------------|---------------------|
| MBEP1206 Research Project | 6 | 6 |

09 MASTER IN TOURISM PLANNING

1. INTRODUCTION

Jointly conducted by the Urban and Regional Planning, Faculty of Built Environment and Surveying and the Marketing and Entrepreneurship, Faculty of Management, this programme adopts a flexible teaching approach to suit the needs of both fresh graduates as well as practitioners in producing skilled and highly trained tourism planners. The teaching approach has evolved from its urban planning tradition since the inception of the course in 1998 to a multi-disciplinary and collaborative approach based on the principles of sustainability. A distinct feature of the course is ‘hands on’ learning through case-study projects. The programme also covers the whole spectrum of tourism planning such as ecotourism, urban tourism, rural tourism, heritage tourism, island tourism, and sustainable tourism.

2. NAME OF AWARD

Master in Tourism Planning

3. ENTRY REQUIREMENT

University Requirement

Have a minimum qualification of a Bachelor’s Degree with a CGPA of 3.00 in a related field or the equivalent by a recognized University in accordance with the basic conditions of admission based on the Guidelines for the Evaluation of Admission Requirements 1998 Revised. 1/2013.

Faculty Requirement

- Bachelor’s Degree in related fields with honors at Universiti Teknologi Malaysia or any higher education institution recognized by the Senate; or
- Candidates who have a Bachelor’s Degree with a GPA > 2.75 must have 2 years of work experience in a related field or have a Bachelor’s degree with a GPA > 2.00 < 2.50 need 5 years of work experience in a related field.
- English Language Requirements (for international students)

English Language Requirements (for international students):

- IELTS Band 6.0 and above
- TOEFL iBT score of 60 and above
- Cambridge English Qualifications (CEQ) B2 First, C1 Advanced, C2 Proficiency Score of 169 and above
- PTE Academic Score of 59 and above
- Malaysian University Entrance Test (MUET) Band 4 and above
- Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2
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Mandatory English language requirements for international students who have completed a Bachelor’s Degree and equivalent to a Malaysian Public University.

Exceptions are granted to:

- International students from countries where English is the official medium of instruction.
- International students using academic qualifications from institutions in countries where English is the official medium of instruction.

For international students who do not meet the English language competency requirements. Students are considered for conditional offers as follows:

- Follow the English preparatory course set by UTM
- Students who follow the English preparatory course set by UTM or Certified Intensive English Program (CIEP) from ELS Language Centre within maximum 1 year from the date of registration.

Admission requirements for APEL candidates (APEL T-7)

- Malaysian citizens
- Be 30 years old at the time of application and have at least STPM/Diploma/Matriculation Certificate or equivalent
- Relevant work experience
- The nomination conditions for Malaysian citizens who have an APEL T-7 certificate can be taken into account for the purpose of admission, ie Applicants must get 60% from the entire test (Aptitude Test (40%), Portfolio Test (50%) and Interview (10%).

Related fields that have been registered under APEL: Built Environment and Surveying (please refer to <https://www2.mqa.gov.my/portalapela/BidangT7.cfm>)

The hearing and sight impaired category is not permitted to this program.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Mastery of knowledge and competency in advance areas of tourism planning and management to meet the industrial need;
- PEO2 Innovative in developing and adapting advanced analytical skills and multidisciplinary approaches to contribute to the development of sustainable tourism planning;
- PEO3 Professionalism and high standards of ethical conducts within organization and society to ensure continuously engage in life long learning;
- PEO4 Responsive to good leadership conduct and high entrepreneurial with the support of communication skills that contribute to the society.

5. PROGRAMME LEARNING OUTCOMES

- PO1 deeply discuss advanced philosophies, theories, concepts, approaches and principles in tourism planning and related fields.
- PO2 Adaptably apply diverse knowledge and ideas in formulating planning solutions towards holistically addressing relevant tourism issues in diverse perspectives.
- PO3 Proficiently conduct surveys, perform analyses and evaluate alternative tourism planning proposal using advanced techniques and state-of the art technologies in sync with current institutional and professional practices.

- PO4 Effectively collaborate with different groups of stakeholders, partners, scholarly community; and society at large in the tourism and related fields.
- PO5 Effectively and cogently convey tourism planning and management ideas, rationales and propositions through written, visual and oral presentations to different audiences, using a wide range of information, media and technology applications.
- PO6 Adeptly apply cutting-edge digital and information technologies to enhance planning activities in line with a smart tourism framework.
- PO7 Scientifically apply statistical techniques to analyse numerical and graphical data to enhance decision making in tourism planning and development.
- PO8 Effectively lead, collaborate with, and empower team members; build consensus, accommodate and celebrate differences within a team towards accomplishing collective goals in tourism planning and related fields.
- PO9 Consistently relate to and integrate emerging global, national and local economic, environmental socio-political and technological changes in current tourism industry.
- PO10 Promptly initiate and lead project planning and development tasks after considering viability and feasibility via risks and cost-and benefit analyses.
- PO11 Adhere high ethical and moral values, professionalism and accountability in performing duties and tasks that have bearing on the interests and wellbeing of the society and the environment, in keeping with key global agenda on sustainable development for tourism.

6. MODE AND DURATION OF STUDY

Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Total credit hours | Percentage |
|-------------------------|--------------------|------------|
| 1. University | | |
| a. General | 3 | 15 |
| b. Research Methodology | 3 | |
| 2. Programme Core | 16 | 40 |
| 3. Programme Electives | 9 | 22.5 |
| 4. Reseach Project | 9 | 22.5 |
| Total | 40 | 100 |

8. AWARD REQUIREMENTS

For the award of Master in Tourism Planning, the students should achieve a total minimum of 40 credit hours with minimum CGPA of 3.00, including the completion of Research Project.

9. LIST OF COURSES

Semester 1

| Courses | Credit | Total Credit |
|--|--------|--------------|
| MBEV1013 Introduction to Tourism Planning and Policy | 3 | 16 |
| MBEX1013 Research Methodology in Built Environment and Surveying | 3 | |
| MBEF1023 Sustainable for Built Environment/ MBEV1143 Business Economics for Tourism | 3 | |
| MBEV1027 Studio: Tourism Development | 7 | |

Semester 2

| Courses | Credit | Total Credit |
|--|--------|--------------|
| MBEV1063 Marketing and Innovation in Tourism/ MBEV1043 Tourism Product Planning/ MBEV1033 Tourism Analysis/ MBEV1153 Tourism, Society and Culture | 3 | 12 |
| MBEV1129 Research Project | 9 | |

Semester 3

| Courses | Credit | Total Credit |
|--|--------|--------------|
| MBEV1126 Project Management in Tourism | 6 | 6 |

10 MASTER IN GEOMATICS ENGINEERING

1. INTRODUCTION

The Master in Geomatics Engineering course consists of 6 core courses, 3 elective courses and 1 University course. The elective courses are divided into two specializations (Survey & Mapping, and Utility Mapping). In addition to these subjects, students are required to submit a Master Project worth 6 credits. To graduate, students must complete a total of 40 credits and they are assessed through assignments, presentations and final examination. The curriculum of the program is shown.

2. NAME OF AWARD

Master in Geomatics Engineering

3. ENTRY REQUIREMENT

A Bachelor's degree from Universiti Teknologi Malaysia or any other Institution of Higher learning recognised by the Senate with minimum CGPA 3.00 in relevant fields.

Other qualifications equivalent to a Bachelor's degree (CGPA < 3.00) and experience (2 years) in the relevant field recognised by the Senate; CGPA < 2.5 experience (5 years) in relevant field.

English Language Requirements (for international students)

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Mastery of knowledge and technically competent in the advanced field of surveying and mapping leading to a successful career.
- PEO2 Professionalism with high standards of ethical conduct within organisation and society.
- PEO3 Responsive to the current situation through continuous development of new knowledge and skills.

5. PROGRAMME LEARNING OUTCOMES

- PLO1 Be able to integrate advanced knowledge and concepts related to geomatics engineering field.
- PLO2 Be able to construct solutions to complex problems in geomatics engineering field.
- PLO3 Be able to apply contemporary tools and techniques in practicing geomatics engineering field.
- PLO4 Be able to work together and collaboratively with stakeholders in learning and working environment.
- PLO5 Be able to communicate effectively using appropriate methods or techniques with professionals and community.

- PLO6 Be able to use competently a wide range of suitable digital technologies and appropriate software to support learning activities
- PLO7 Be able to evaluate numerical and graphical data in geomatics engineering field using quantitative or qualitative tools.
- PLO8 Be able to demonstrate leadership, autonomy and responsibility in learning and working environments.
- PLO9 Be able to demonstrate self-advancement through continuous academic or professional development.
- PLO10 Be able to initiate entrepreneurial projects with relevant knowledge and skills.
- PLO11 Be able to demonstrate adherence to ethical code of practice and professionalism in dealing with relevant issues

6. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Total credit hours | Percentage |
|---------------------------------|--------------------|------------|
| 1. Compulsory University Course | 3 | 7.5 |
| 2. Programme Core | 22 | 55 |
| 3. Programme Electives | 9 | 22.5 |
| 4. Master Project | 6 | 15 |
| Total | 40 | 100 |

8. AWARD REQUIREMENTS

For the award of Master in Geomatics Engineering, the students should achieve a total minimum of 40 credit hours with minimum CPA of 3.0, including the completion of Research Project.

9. LIST OF COURSES

List of Courses for Master in Geomatics Engineering

| Codes | Courses | Credit |
|---|---|-----------|
| UNIVERSITY COURSE (3 CREDITS) | | |
| UXXX6XX3 | University General Course | 3 |
| CORE COURSES (22 CREDITS, COMPULSORY) | | |
| MBEE1014 | Satellite Surveying | 4 |
| MBEE1024 | Geomatics Data Analysis | 4 |
| MBEE1034 | UAV Mapping | 4 |
| MBEE1043 | Geomatics Project Management | 3 |
| MBEE1054 | Geographical Information System | 4 |
| MBEX1013 | Research Methodology in Built Environment and Surveying | 3 |
| MASTER PROJECT (6 CREDITS) | | |
| MBEE1376 | Master Project | 6 |
| ELECTIVE COURSES (9 CREDITS) – CHOOSE 3 ONLY | | |
| MBEE1513 | Land Management | 3 |
| MBEE1523 | Advanced Engineering Surveying | 3 |
| MBEE1533 | Hydrographic Surveying Application | 3 |
| MBEE1543 | Underground Utility Surveying | 3 |
| MBEE1553 | Geophysics for Utility Surveying | 3 |
| MBEE1563 | Utility Mapping Standard and Practice | 3 |
| MBEX1023 | Sustainable Development for Built Environment and Surveying | 3 |
| TOTAL NUMBER OF CREDITS | | 40 |

11 MASTER OF SCIENCE IN GEOINFORMATICS

1. INTRODUCTION

The Master of Science in Geoinformatics course consists of 6 core courses, 4 elective courses and 1 University course. In addition to these courses, students are required to submit a Master's Project worth 8 credits. To graduate, students must complete a total of 41 credits and they are assessed through assignments, presentations and final examinations.

2. NAME OF AWARD

Master of Science in Geoinformatics

3. ENTRY REQUIREMENT

University General Conditions

The basic conditions of admission refer to the Guidelines for the Evaluation of Admission Conditions 1998 Amendment 1/2013.

Faculty General Conditions

1. Prospective students must have a Bachelor of Science (GEOINFORMATICS) or have a Bachelor's Degree from various related fields with PNGK/CGPA 3.0.
2. CGPA/CGPA bachelor's degree with CGPA 2.99 to 2.5 requires 2 years of work experience.
3. CGPA/CGPA less than 2.50 and at least 2.00, 5 years of work experience.
4. English Language Competency Requirements (for international students):
 - IELTS Band 6.0 and above
 - TOEFL iBT score of 60 and above
 - Cambridge English Qualifications (CEQ) Score B2
 - First, C1 Advanced, C2 Proficiency with a Score of 169 and above
 - PTE Academic with a Score of 59 and above
 - Malaysian University Entrance Test (MUET) Band 4 and above

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- ELS Certified Intensive English Program (CIEP) Level 108 and above
- Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2.

Exemption from the English language requirement may be granted to:

1. International students from countries where English is the official medium of instruction
2. International students using academic qualifications from institutions in countries where English is the official medium of instruction.

For international students who do not meet the English language competency requirements, students may be considered for a conditional offer as follows:

1. International students follow an English preparatory course set by UTM;
2. International students who follow the English preparatory course set by UTM must sit the exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2

APEL terms

Malaysia citizen and aged of 30 years and above at year of application for an entry/access to a programme at Masters level (APEL T-7) with STPM/Diploma or any qualification equivalent to Diploma and experience in a related field.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Mastery of knowledge and competent in advanced areas of Geographical Information Science.
- PEO2 Professionalism with high standards of ethical conduct within organization and society.
- PEO3 Responsive to changing situations by continuously acquiring new knowledge and skills.

5. PROGRAMME LEARNING OUTCOMES

- PLO1 Synthesize complex information, specialized concepts, methods and practice independently in the field of geographical information science.
- PLO2 Construct solutions for complex problems in the field of geographical information science using appropriate information and systematic approaches.
- PLO3 Apply practical skills and tools that are based on the forefront knowledge and the latest development in the field of geographical information science.
- PLO4 Work together and collaboratively with stakeholders in learning and working environment.
- PLO5 Communicate effectively using appropriate methods or techniques with professionals and community.
- PLO6 Use competently a wide range of suitable digital technologies and appropriate software to support learning in geographical information science field.
- PLO7 Analyze spatial and aspatial data and information for making accurate decision and generate conclusions in the field of geographical information science.
- PLO8 Demonstrate leadership, autonomy, and responsibility in learning and working environment.
- PLO9 Demonstrate self-advancement through continuous academic or professional development.
- PLO10 Initiate entrepreneurial projects with relevant knowledge and skills.
- PLO11 Demonstrate adherence to ethical code of practice and professionalism in dealing with relevant issues.

6. MODE AND DURATION OF STUDY

Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Codes | Courses | Credit |
|---|---|-----------|
| UNIVERSITY COURSE (3 CREDITS) | | |
| UXXX6XX3 | University General Course | 3 |
| CORE COURSES (18 CREDITS, COMPULSORY) | | |
| MBEO1113 | Fundamental of Geospatial Science | 3 |
| MBEO1123 | Geospatial Data Acquisition and Processing | 3 |
| MBEO1133 | Innovations in Geospatial Science | 3 |
| MBEO1213 | Geospatial Data Management | 3 |
| MBEO1233 | Geospatial Analysis and Modelling | 3 |
| MBEX1013 | Research Method in Built Environment and Surveying | 3 |
| MASTER PROJECT (8 CREDITS) | | |
| MBEO2208 | Master's Project | 8 |
| ELECTIVE COURSES (CHOOSE THREE (4) COURSES) (12 CREDITS) | | |
| MBEO1513 | Programming for GIS | 3 |
| MBEO1533 | Geospatial Databases | 3 |
| MBEO1523 | GIS for Resource Management | 3 |
| MBEX1023 | Sustainable Development for Built Environment and Surveying | 3 |
| MBEO1543 | Geostatistical Analysis | 3 |
| MBEO1553 | Geospatial Project Management | 3 |
| MBEO1563 | 3D City Modelling in Built Environment | 3 |
| MBEO1573 | Managing and Visualising Geospatial Data | |
| TOTAL NUMBER OF CREDITS | | 41 |

12 MASTER OF SCIENCE IN REMOTE SENSING

1. INTRODUCTION

Remotely sensed technologies has been one of the prominent and future frontiers in data acquisition for various environmental fields. Acquiring the knowledge, science and practices are vital in successful utilization of this technology to the maximum. It requires specific understanding of the theories, skills in processing and handling of the technology, and sound communication with the prospective users from different scientific backgrounds. To produce experts that are able to operate, utilize, manage and innovate remote sensing technology to the optimum, the Department of Geoinformation is offering a M.Sc. course in Remote Sensing to fulfil the needs towards sustainable development.

2. NAME OF AWARD

Master of Science in Remote Sensing

3. ENTRY REQUIREMENT

A Bachelor's degree from Universiti Teknologi Malaysia or any other Institution of Higher learning recognised by the Senate with minimum CGPA 3.00 in relevant field.

Other qualifications equivalent to a Bachelor's degree (CGPA < 3.00) and experience (2 years) in the relevant field recognised by the Senate; CGPA < 2.5 experience (5 years) in relevant field.

English Language Requirements (for international students)

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 To possess knowledge, expertise and professionalism in remote sensing fields
- PEO2 To conduct high impact research to solve related problems through critical thinking
- PEO3 To practice ethical communication, life-long learning and effective social skills
- PEO4 To possess leadership qualities and able to work efficiently in an organization
- PEO5 To possess entrepreneurial and innovative mind set in achieving sustainable development

5. PROGRAMME LEARNING OUTCOMES

- PO1 Demonstrate mastery of knowledge in remote sensing.
- PO2 Conduct research with minimal supervision in remote sensing.
- PO3 Relate ideas to societal issues in remote sensing.
- PO4 Apply high ethical standards in research, professional practice and social interactions.
- PO5 Demonstrate leadership qualities in studying, conducting scientific research, and communication.
- PO6 Generate solutions to problems using scientific and critical thinking skill.
- PO7 Manage remote sensing information, sciences, and technology for lifelong learning.

6. MODE AND DURATION OF STUDY

Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Total credit hours | Percentage |
|---------------------------------|--------------------|------------|
| 1. Programme Core | 23 | 57.5 |
| 2. Programme Electives | 6 | 15 |
| 3. Research Project | 8 | 20 |
| 4. Compulsory University Course | 3 | 7.5 |
| Total | 40 | 100 |

8. AWARD REQUIREMENTS

For the award of Master of Science in Remote Sensing, the students should achieve a total minimum of 40 credit hours with minimum CGPA of 3.00, including the completion of Research Project.

9. LIST OF COURSES

| Codes | Courses | Credit |
|---|---|-----------|
| UNIVERSITY COURSE (3 CREDITS) | | |
| UXXX6XX3 | University General Course | 3 |
| CORE COURSES (22 CREDITS, COMPULSORY) | | |
| MBER1114 | Remote Sensing Technology | 4 |
| MBER1124 | Digital Image Processing | 4 |
| MBER1244 | Geographical Information System and Spatial Data Management | 4 |
| MBER1254 | Geospatial Data Acquisition | 4 |
| MBER1264 | Geospatial Modelling and Visualization | 4 |
| MBER1244 | Geographical Information System and Spatial Data Management | 4 |
| MBEX1013 | Research Methodology in Built Environment and Surveying | 3 |
| MASTER PROJECT (6 CREDITS) | | |
| MBER1218 | Master Project | 6 |
| ELECTIVE COURSES (6 CREDITS) - CHOOSE 2 ONLY | | |
| MBER1113 | Geospatial Technology for Sustainable Development | 3 |
| MBER1123 | Geospatial Technology for Disaster Management | 3 |
| MBER1133 | Geospatial Technology for Ocean and Coastal Resource Management | 3 |
| MBER1143 | Spatial hydroinformatics | 3 |
| MBER1153 | Geospatial Technology for Natural Resources Management | 3 |
| MBER1163 | Geospatial Technology for Climate Change Resilience | 3 |
| MBEX1023 | Sustainable Development for Built Environment and Surveying | 3 |
| TOTAL NUMBER OF CREDITS | | 40 |

13 MASTER IN REAL ESTATE

1. INTRODUCTION

The Master in Real Estate course consists of 7 core courses, 3 elective courses and 1 University course, In addition to these course students are required to submit a Master Project worth of 6 credits. To graduate, students must complete a total 45 credits and they are assessed through assignments, presentations and final examination.

2. NAME OF AWARD

Master in Real Estate

3. ENTRY REQUIREMENT

Faculty Special Requirement

- Bachelor's degree in Real Estate from Universiti Teknologi Malaysia or any other Institution of Higher learning recognised by the Senate with minimum CGPA 3.00 in relevant field.
- CGPA less than 3.00 requires 2 years of work experience in related field.
- CGPA less than 2.50 and at least 2.00, requires 5 years of work experience in related field.

English Language Requirements for international students:

- IELTS Band 6.0 and above or
- TOEFL iBT score of 60 and above or
- Cambridge English Qualifications (CEQ) Score B2 or
- First, C1 Advanced, C2 Proficiency with a Score of 169 and above or
- PTE Academic with a Score of 59 and above or
- Malaysian University Entrance Test (MUET) Band 4 and above or
- ELS Certified Intensive English Program (CIEP) Level 108 and above or
- Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2.

Exemption from the English language requirement may be granted to:

- International students from countries where English is the official medium of instruction
- International students using academic qualifications from institutions in countries where English is the official medium of instruction.

For international students who do not meet the English language competency requirements, students may be considered for a conditional offer as follows:

- International students follow an English preparatory course set by UTM;
- International students who follow the English preparatory course set by UTM must sit the exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2

APEL terms

Malaysia citizen and aged of 30 years and above at year of application for an entry/access to a programme at Masters level (APEL T-7) with STPM/Diploma or any qualification equivalent to Diploma and experience in a related field.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Knowledgeable and technically competent in real estate discipline inline with the industry requirement.
- PEO2 Committed to high level of ethical and leadership qualities in response to the global market environment.
- PEO3 Responsive to the current situation through continuous development of new knowledge and skills.

5. PROGRAMME LEARNING OUTCOMES

- PLO1 Integrate mastery of knowledge and understanding in the real estate field.
- PLO2 Construct solutions to solve complex problems in real estate field.
- PLO3 Demonstrate ability to apply appropriate methods and procedures to resolve complex issues in real estate field.
- PLO4 Work together and collaboratively with stakeholders in learning and working environment.
- PLO5 Communicate the knowledge and skills using appropriate methods with community and stakeholders.
- PLO6 Competently apply appropriate digital technology and software to support learning in real estate field.
- PLO7 Evaluate numerical and graphical data in real estate field using quantitative or qualitative tools.
- PLO8 Demonstrate autonomy and leadership qualities in learning and working environment.
- PLO9 Exemplify self-improvement through continuous academic and professional development.
- PLO10 Initiate entrepreneurial ventures with relevant knowledge and skills.
- PLO11 Demonstrate adherence to legal, ethical and professional codes of practice in dealing with relevant issues.

6. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Classification | Total credit hours | Percentage |
|---------------------------------|--------------------|------------|
| 1. Programme Core | 27 | 60 |
| 2. Programme Electives | 9 | 20 |
| 3. Research Project | 6 | 13.3 |
| 4. Compulsory University Course | 3 | 6.7 |
| Total | 45 | 100 |

8. LIST OF COURSES

| Codes | Courses | Credit |
|---|---|-----------|
| UNIVERSITY COURSE (3 CREDITS) | | |
| UXXX6XX3 | University General Course | 3 |
| CORE COURSES (27CREDITS, COMPULSORY) | | |
| MBEH1114 | Real Estate Business | 4 |
| MBEH1124 | Real Estate Valuation | 4 |
| MBEH1134 | Corporate Real Estate Asset Management | 4 |
| MBEH1144 | Real Estate Market Research | 4 |
| MBEH1154 | Real Estate Portfolio and Risk Management | 4 |
| MBEH1164 | Real Estate Investment strategy | 4 |
| MBEX1013 | Research Methodology in Built Environment and Surveying | 3 |
| ELECTIVE COURSES (CHOOSE FOUR (3) COURSES) (9 CREDITS) | | |
| MBEH1213 | Facilities Management | 3 |
| MBEH1223 | Business Valuation | 3 |
| MBEH1233 | Economic Analysis for Real Estate | 3 |
| MBEH1243 | Strategic Property Management | 3 |
| MBEH1253 | Real Estate Finance | 3 |
| MBEX1023 | Sustainable Development for Built Environment and Surveying | 3 |
| MASTER PROJECT (6 CREDITS) | | |
| MBEH1176 | Master Project | 6 |
| TOTAL NUMBER OF CREDITS | | 45 |

14 MASTER IN LAND ADMINISTRATION AND DEVELOPMENT

1. INTRODUCTION

Land Administration System is the process whereby land and the information about land may be effectively managed. This system is the basis for sustainable development which enables the state to manage information about the ownership, value and use of land, whereby it intends to provide for the security of tenure, access to credit market, and investment, property taxation, protection of state lands, the development and monitoring of land markets, land reform, urban planning and infrastructure development, environmental management, and production of statistical data.

Modern Land Administration is not only the integrated systems but a healthy discipline capable of contributing to world discourse in land policy, land management, public organisation and infrastructures and technical systems. This therefore requires a new breed of expert administrators and developers who have the knowledge and skills to manage and develop land together and help the nation achieve economic growth. This program is designed to have a cross discipline appeal which can expose land administrators, planners, valuers, and surveyors as well as developers and those involved in the process of drafting land policy to a wider perspective.

The Master in Land Administration and Development by course work consists of 5 Core Courses, 4 Elective Courses and 1 University Course. Besides these taught subjects, students are required to submit a Master Project of 6 credits. To graduate, students must complete a total of 40 credits. Students are assessed through assignments, presentations and final examinations.

2. NAME OF AWARD

Master in Land Administration and Development

3. ENTRY REQUIREMENT

University General Conditions

The basic conditions of admission refer to the Guidelines for the Evaluation of Admission Conditions 1998 Amendment 1/2013.

Faculty General Conditions

- Prospective students must have a Bachelor of Science (Administration and Land Development) or have a Bachelor's Degree from various related fields with PNGK/CGPA 3.0.
- CGPA/CGPA bachelor's degree with CGPA 2.99 to 2.5 requires 2 years of work experience.
- CGPA/CGPA less than 2.50 and at least 2.00, 5 years of work experience.

English Language Requirements for international students:

- IELTS Band 6.0 and above
- TOEFL iBT score of 60 and above
- Cambridge English Qualifications (CEQ) Score B2
- First, C1 Advanced, C2 Proficiency with a Score of 169 and above
- PTE Academic with a Score of 59 and above
- Malaysian University Entrance Test (MUET) Band 4 and above

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- ELS Certified Intensive English Program (CIEP) Level 108 and above
- Any exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2.

Exemption from the English language requirement may be granted to:

- International students from countries where English is the official medium of instruction
- International students using academic qualifications from institutions in countries where English is the official medium of instruction.

For international students who do not meet the English language competency requirements, students may be considered for a conditional offer as follows:

- International students follow an English preparatory course set by UTM;
- International students who follow the English preparatory course set by UTM must sit the exam that has been taught to The Common European Framework of Reference (CEFR) with a minimum score of B2

▪

APEL terms

Malaysian candidates who have an APEL T-7 certificate can be considered for admission purposes.

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Mastery of knowledge and competency in advanced areas of land administration and development field.
- PEO2 Professionalism with high standards of ethical conducts within organisation and society.
- PEO3 Responsive to the current situation through continuous development of new knowledge and skills.

5. PROGRAMME LEARNING OUTCOMES

- PLO1 Integrate advanced knowledge and concepts related to land administration and development.
- PLO2 Construct solutions to complex issues in land matters.
- PLO3 Apply contemporary tools and techniques in supporting land administration system.
- PLO4 Work together and collaboratively with stakeholders in learning and working environment.
- PLO5 Communicate effectively using appropriate methods or techniques with professionals and community

- PLO6 Use competently a wide range of suitable digital technologies and appropriate software to support learning in land field.
- PLO7 Evaluate numerical and graphical data in land field using quantitative or qualitative tools.
- PLO8 Demonstrate leadership, autonomy, and responsibility in learning and working environment.
- PLO9 Demonstrate self-advancement through continuous academic or professional development
- PLO10 Initiate entrepreneurial projects with relevant knowledge and skills.
- PLO11 Demonstrate adherence to ethical code of practice and professionalism in dealing with relevant issues.

6. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
- Minimum Duration : 1 years (2 Semester + 1 Short Semester)
- Maximum Duration : 4 years (8 Semester)

7. LIST OF COURSES

| Codes | Courses | Credit |
|--|---|-----------|
| UNIVERSITY COURSE (3 CREDITS) | | |
| UXXX6XX3 | University General Course | 3 |
| CORE COURSES (19CREDITS, COMPULSORY) | | |
| MBET1504 | Applied Economics of Land Development | 4 |
| MBET1514 | Land Administration Systems and Governance | 4 |
| MBET1524 | Law of Land Development | 4 |
| MBET2554 | Planning and Development | 4 |
| MBEX1013 | Research Methodology in Built Environment and Surveying | 3 |
| ELECTIVE COURSES (CHOOSE FOUR (4) COURSES) (12 CREDITS) | | |
| MBET2543 | Strategic Land Development and Practices | 3 |
| MBET1013 | Land Information System and Technology | 3 |
| MBET2583 | Law and Practices Relating to Housing Industry | 3 |
| MBET2613 | Stratified Land Ownership and Development | 3 |
| MBET2623 | Contemporary Islamic Land Development | 3 |
| MBET2633 | Environment and Natural Resource Management | 3 |
| MBET1533 | Land Taxation | 3 |
| MBEX1023 | Sustainable Development For Built Environment and Surveying | 3 |
| MASTER PROJECT (6 CREDITS) | | |
| MBET2546 | Master Project | 6 |
| TOTAL | | 40 |

15 MASTER OF ASSETS AND FACILITIES MANAGEMENT

1. INTRODUCTION

The Master of Assets and Facilities Management course consists of 5 core courses, 5 elective courses and 1 University course. In addition to these subjects, students are required to submit a Master Project worth of 8 credits. To graduate, students must complete a total 46 credits and they are assessed through assignments, presentations and final examination. The curriculum of the program is shown as following.

2. NAME OF AWARD

Master of Assets and Facilities Management

3. ENTRY REQUIREMENT

- Bachelor's degree with honors from Universiti Teknologi Malaysia (UTM) or any higher education institution recognized by the Senate in the field of Architecture, Engineering & Technology, Economics & Business, Management or an equivalent field with aGPA of at least 3.00; or
- Bachelor's degree with GPA <3.00 must have two (2) years of work experience in the relevant field; or
- Bachelor's degree with CGPA >2.00 <2.50 requires five (5 years) work experience in a related field.
- English Language Requirements (for international students)

4. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Able to use knowledge of undergraduate engineering and other disciplines to identify, formulate and solve problem in advanced Facilities Management.
- PEO2 Able to conduct research and development activities guided/directed systematically in the field of Facilities Management.
- PEO3 Build awareness and understanding of professional ethical impact of engineering solution in a global and societal context.
- PEO4 Able to promote and disseminate research based knowledge and development activities in Facilities Management through peer review and publication.
- PEO5 Know how and resources required to transfer technology to the commercialization and clinical implementation.
- PEO6 Aware of the need and ability to lifelong learning.

5. PROGRAMME LEARNING OUTCOMES

- PO1 Demonstrate mastery of knowledge in the asset and facilities management
- PO2 Apply practical skills in the asset and facilities management
- PO3 Relate ideas to the societal issues in the asset and facilities management
- PO4 Conduct research independently with minimal supervision and adhere to legal, ethical and professional codes of practice.
- PO5 Demonstrate leadership qualities through communicating and working effectively with peers and stakeholders.
- PO6 Generate solutions to problems using scientific and critical thinking skills.
- PO7 Manage information for lifelong learning.

6. MODE AND DURATION OF STUDY

Mode of Study : Full-time
 Minimum Duration : 1 years
 Maximum Duration : 4 years

7. CLASSIFICATION OF COURSES

| Codes | Courses | Credit |
|---|--|-----------|
| UNIVERSITY COURSE (3 CREDITS) | | |
| UXXX6XXX | University General Course | 3 |
| CORE COURSES (20CREDITS, COMPULSORY) | | |
| MGHT1114 | Strategic Asset Management | 4 |
| MGHT1124 | Strategic Facilities Management | 4 |
| MGHT1134 | Project & Contract Management | 4 |
| MGHT1144 | Strategic Maintenance Management | 4 |
| MGHT1154 | Research Methodology in FM | 4 |
| ELECTIVE COURSES (15 CREDITS) | | |
| MGHT1513 | Financial Management/ Risk Management | 3 |
| MGHT1523 | Quality Management /Value Management | 3 |
| MGHT1533 | Facilities Information Technology Solutions/ Sustainable Environmental Management (FITS/SEM) | 3 |
| MGHT1543 | Performance Management | 3 |
| MGHT1553 | Professional Practice | 3 |
| MASTER PROJECT (8 CREDITS) | | |
| MGHT1168 | Master Project | 8 |
| TOTAL NUMBER OF CREDITS | | 46 |

16 MASTER OF PHILOSOPHY

1. INTRODUCTION

The Master of Philosophy programmes offered by the Faculty is in the field of architecture, quantity surveying, urban and regional planning, transportation planning, landscape architecture, geoinformatics, geomatics engineering, remote sensing, land administration & development, real estate and facilities management. The programmes are entirely conducted in research mode whereby students conduct original research under the supervision of experienced supervisors. Students enrol in the programme are compulsory to present their research proposal in semester 2. The proposal will be evaluated by two/three internal panels that will be appointed by the Faculty Academic Committee. In order to graduate, students are required to prepare complete thesis by following the UTM Thesis Writing Guidelines and fulfil the publication requirement. The viva voice session will be held at the Faculty.

2. NAME OF AWARD

Master of Philosophy

3. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Proficiently knowledgeable and technically competent as well as innovative in meeting all challenges in the practice of Built Environment and Surveying.
- PEO2 Accomplished in research activities and continuously engage in life-long learning to perpetually improve professionalism and ethical in the discipline of Built Environment and Surveying.
- PEO3 Possessed good leadership conduct as well as effective entrepreneurial and communication skills that contribute into the wellbeing of society.

4. PROGRAMME LEARNING OUTCOMES

- PLO1 Integrate and generate in-depth relevant knowledge independently using innovative techniques, tools and skills for decision-making to manage and resolve a complex problem in the field of Built Environment and Surveying as a basis for research.
- PLO2 Construct a critical and innovative solution for complex problems or issues in the field of Built environment and surveying through research using the latest development techniques and skills.
- PLO3 Devise standard research methodology that are based on the forefront knowledge and latest development in the field of Built environment and surveying to solve research problems with reasonable degree of originality.
- PLO4 Demonstrate effective collaboration with peers, scholarly communities and society at large in the relevant field of expertise and research.
- PLO5 Communicate the knowledge, skills, ideas clearly using appropriate methods to peers, experts, and non-experts through various medium.

- PLO6 Use a broad range of suitable digital technologies, media, and software to design, manage, analyse and report research studies.
- PLO7 Demonstrate skills in designing, planning evaluation activities, and analysing numerical and graphical data using quantitative or qualitative tools in solving problems.
- PLO8 Demonstrate leadership, autonomy and responsibility in conducting and managing own research and resources.
- PLO9 Demonstrate the ability to manage and enhance own self-advancement for academic development, professional development and research skills using lifelong learning strategies.
- PLO10 Develop potential commercialisation research output.
- PLO11 Demonstrate adherence to legal, ethical and professional codes of practice in the field of Built Environment and Surveying and research activities.

5. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
 Minimum Duration : 1 years (2 Semester)
 Maximum Duration : 4 years (8 Semester)

6. CLASSIFICATION OF COURSES

| Classification | Credit | Status |
|-------------------------------|--------|--------|
| 1.University General Course | 3 | HW |
| 2.Research Methodology Course | 3 | HW |
| 3.Research (Thesis) | 0 | - |

7. AWARD REQUIREMENTS

For the award of Master of Philosophy, the students should pass all courses including the completion of thesis.

8. LIST OF COURSES

Semester 1

| Courses | Credit | Status |
|---|--------|--------|
| 1.UXXX6XX3 - University General Course ¹ | 3 | HW |
| 2.UBEP6013 Research Methodology | 3 | HW |
| 3.MBEX / MGHX1100 Research ² | 0 | - |

Note:

¹ Students are advised to enrol for the course in the earlier semester.

¹ Students may choose University General Course based on the courses offered by the other faculty during the respective semester.

² Students must register a research code every semester within the specified dates determined by the University.

X - refer the attachment for the research code by each program/research field

Semester 2-8

| Semester | Course | Credit |
|----------|---------------------|--------|
| 2 | MBEX1200 - Research | 0 |
| 3 | MBEX2100 - Research | 0 |
| 4 | MBEX2200 - Research | 0 |
| 5 | MBEX3100 - Research | 0 |
| 6 | MBEX3200 - Research | 0 |
| 7 | MBEX4100 - Research | 0 |
| 8 | MBEX4200 - Research | 0 |

Notes:

- Student need to refer Appendix 1 for their specific research code by programme.
- First Level Assessment (Proposal Defense) presentation should be done in Semester 2. Student with active status who fail to submit a research proposal within the maximum semester period will receive an Unsatisfactory (TM) grade for the [articular semester.
- Students should submit Notice for Submission of Thesis (NHT) at least three (3) months prior to submission of the thesis for examination. NHT can be done online (GSMS System) via MyUTM portal.

9. SYLLABUS SYNOPSIS

UBEP6013 Research Methodology

This course equips the students with the theory and practice of conducting an academic research. The course covers the theory and philosophy of research, research methods, research methodology, research design, purpose of research, types or classification of research, research process and research writing. The students is expected to prepare the proposal for their thesis.

Research Thesis

Students are expected to conduct an academic research on the related field based on the proposal submitted and approved as per scheduled. It requires individual students to undertake investigative studies which involve an identification of problems/issues; literature review; data collection, analysis and interpretation of research findings. Thesis shall contribute to the related body of knowledge. The students shall be required to submit and defence their thesis.

17 DOCTOR OF PHILOSOPHY

1. INTRODUCTION

The doctorate programmes offered by the faculty are in the field of architecture, quantity surveying, urban and regional planning, transportation planning, landscape architecture, geoinformatics, geomatics engineering, remote sensing, land administration & development, real estate and facilities management. The programmes are entirely conducted in research mode whereby students conduct original research under the supervision of experienced supervisors who are themselves PhD holders.

Students enrol in the programme are compulsory to present their research proposal in semester 3. The proposal will be evaluated by two/three internal panels that will be appointed by the Faculty Academic Committee. In order to graduate, students are required to prepare complete thesis by following the UTM Thesis Writing Guidelines and fulfil the publication requirement. The viva voice session will be held at the Faculty.

2. NAME OF AWARD

Doctor of Philosophy

3. PROGRAMME EDUCATIONAL OBJECTIVES

- PEO1 Proficiently knowledgeable and technically competent as well as innovative in meeting all challenges in the practice of Built Environment and Surveying.
- PEO2 Accomplished in research activities and continuously engage in life-long learning to perpetually improve professionalism and ethical in the discipline of Built Environment and Surveying.
- PEO3 Possessed good leadership conduct as well as effective entrepreneurial and communication skills that contribute into the wellbeing of society.

4. PROGRAMME LEARNING OUTCOMES

- PLO1 Synthesize, critique, apply, and extend in-depth relevant knowledge independently using innovative techniques, tools, and skills in the field of Built Environment and Surveying as a basis for research to produce new ideas and solution.
- PLO2 Create new concepts/theories/solutions/practice through independent research and originality that satisfies international standards within the field of Built Environment and Surveying using the latest techniques, tools, and skills.
- PLO3 Integrate highly advanced and specialized research methodologies based on the forefront knowledge and latest development in the field of Built Environment and Surveying to solve complex research problems with reasonable degree of originality.
- PLO4 Demonstrate decent collaboration with peers, scholarly communities and society at large in the relevant field of expertise and research.
- PLO5 Communicate effectively the knowledge, skills, ideas and research findings using appropriate methods to peers, scholarly communities, and societies through various medium.

- PLO6 Use, improve existing or develop new appropriate tools or methodologies using a broad range of digital technology, media and software to support and enhance research activities.
- PLO7 Demonstrate skills in designing, critical evaluation, and analysing numerical and graphical data using quantitative or qualitative tools to support and enhance research activities.
- PLO8 Demonstrate leadership, professionalism and management skills, and take full responsibility for own work, and significantly for others in the research organization.
- PLO9 Demonstrate the ability to manage and enhance own self- and if necessary, can be accountable for overall management of one's research organization and professional development.
- PLO10 Develop potential commercialisation research output.
- PLO11 Demonstrate adherence to legal, professional and contribute to the development of ethical sound codes of practice

5. MODE AND DURATION OF STUDY

- Mode of Study : Full-time
 Minimum Duration : 3 years (6 Semester)
 Maximum Duration : 8 years (8 Semester)

6. CLASSIFICATION OF COURSES

| Classification | Credit | Status |
|-------------------------------|--------|--------|
| 1.University General Course | 3 | HW |
| 2.Research Methodology Course | 3 | HW |
| 3.Research (Thesis) | 0 | - |

7. AWARD REQUIREMENTS

For the award of Doctor of Philosophy, the students should pass all courses including the completion of thesis.

8. LIST OF COURSES

Semester 1

| Courses | Credit |
|---|--------|
| 1.UXXX6XX3 - University General Course ¹ | 3 |
| 2.UBEP6013 Research Methodology Course | 3 |
| 3.PBEX1100 Research Course ² | - |

Note:

¹ Students are advised to enrol for the course in the earlier semester.

¹ Students may choose University General Course based on the courses offered by the other faculty during the respective semester.

² Students must register a research code every semester within the specified dates determined by the University.

X- refer the attachment for the research code by each program/research field

Semester 2-16

| Semester | Course | Credit |
|----------|---------------------|--------|
| 2 | PBEX1200 - Research | 0 |
| 3 | PBEX2100 - Research | 0 |
| 4 | PBEX2200 - Research | 0 |
| 5 | PBEX3100 - Research | 0 |
| 6 | PBEX3200 - Research | 0 |
| 7 | PBEX4100 - Research | 0 |
| 8 | PBEX4200 - Research | 0 |
| 9 | PBEX5100 - Research | 0 |
| 10 | PBEX5200 - Research | 0 |
| 11 | PBEX6100 - Research | 0 |
| 12 | PBEX6200 - Research | 0 |
| 13 | PBEX7100 - Research | 0 |
| 14 | PBEX7200 - Research | 0 |
| 15 | PBEX8100 - Research | 0 |
| 16 | PBEX8200 - Research | 0 |

Notes:

- Student need to refer Appendix 2 for their specific research code by programme.
- First Stage Assessment (Proposal Defense) presentation should be done in Semester 3. Student with active status who fail to submit a research proposal within the maximum semester period will receive an Unsatisfactory (TM) grade for the [articular semester
- Students should submit Notice for Submission of Thesis (NHT) at least three (3) months prior to submission of the thesis for examination. NHT can be done online (GSMS System) via MyUTM portal – student portal.

9. SYLLABUS SYNOPSIS

UBEP6013 Research Methodology

This course equips the students with the theory and practice of conducting academic research. The course covers the theory and philosophy of research, research methods, research methodology, research design, purpose of research, types or classification of research, research process and research writing. The students is expected to prepare the proposal for their thesis.

Research Thesis

Students are expected to conduct an academic research on the related field based on the proposal submitted and approved as per scheduled. It requires individual students to undertake investigative studies which involve an identification of problems/issues; literature review; data collection, analysis and interpretation of research findings. Thesis shall contribute to the related body of knowledge. The students shall be required to submit and defend their thesis.

18 GRADING AND POINT VALUE SYSTEM FOR POSTGRADUATE PROGRAMMES

1. GRADING SYSTEM

- Students' achievement in any particular course is reflected in the grade obtained. The relationship between marks, grade and point value is shown in the table below:

| Marks | Grade | Point Value |
|----------|-------|-------------|
| 90 - 100 | A+ | 4.00 |
| 80 - 89 | A | 4.00 |
| 75 - 79 | A- | 3.67 |
| 70 - 74 | B+ | 3.33 |
| 65 - 69 | B | 3.00 |
| 60 - 64 | B- | 2.67 |
| 55 - 59 | C+ | 2.33 |
| 50 - 54 | C | 2.00 |
| 45 - 49 | C- | 1.67 |
| 40 - 44 | D+ | 1.33 |
| 35 - 39 | D | 1.00 |
| 30 - 34 | D- | 0.67 |
| 00 - 29 | E | 0.00 |

- The passing grade for master programme in taught course mode is set by the Faculty upon the Senate's approval. The minimum passing grade is B-.
- Students will be graded for most of the courses according to the above grading system. However, there are some courses, particularly compulsory audit course which registered with a HW status are without grades. For these courses, students will obtain a 'HL' (Pass) or 'HG' (Fail) status. Compulsory audit course earn credit toward a degree but not grade points.

2. ACADEMIC STANDING FOR MASTER PROGRAMMES IN TAUGHT COURSE MODE

- The students' academic standing is based on Cumulative Grade Point Average (CGPA) and Grade Point Average (GPA). CGPA is a calculation of the average of all of a student's grades for all semesters and courses completed up to a given semester, whereas GPA is a calculation of the average of a student's grade for only the one particular semester. Each grade is changed to point based on the formulation below:

Point = Course Credit × Point Value

$$\text{GPA} = \frac{\text{Total points}}{\text{Total credit units for the particular semester (graded courses)}}$$

$$\text{CGPA} = \frac{\text{Total points for all semesters taken to date}}{\text{Total credits accumulated for all semesters taken to date (graded courses)}}$$

- A student's academic standing is determined at the end of every regular semester based on CGPA as shown in the table below.

| CGPA | Academic Standing |
|-----------------------------------|--|
| CGPA > 2.00 | Good Standing (KB) |
| 1.70 ≤ CGPA < 2.00 | Probationary Standing (KS) |
| CGPA < 1.70 | Failure Standing/Academic Dismissal (KG) |
| For graduation CGPA ≥ 3.00 | |

3. GPA/CGPA COMPUTATION (FOR TAUGHT COURSE MODE)

- The method of computing the GPA in one particular semester with five graded-courses and one non-graded course (course registered with a compulsory audit course [HW] status) is shown below:

$$\text{GPA} = \frac{\text{Total points}}{\text{Total credit units for the particular semester (graded courses)}}$$

| Courses | Credit Units | Marks | Grade | Grade Point | Point |
|---|--------------|--------------|-------|-------------|-------|
| Course A | 4 | 91 | A+ | 4.00 | 16.00 |
| Course B | 5 | 84 | A | 4.00 | 20.00 |
| Course C | 5 | 66 | B | 3.00 | 15.00 |
| Course D | 4 | 56 | C+ | 2.33 | 9.32 |
| Course E | 2 | 25 | E | 0.00 | 0.00 |
| Course F | 3 | - | HL | - | - |
| Total credit units enrolled | 23 | Total Points | | | 60.32 |
| Total credit units from graded courses | 20 | | | | |
| Less credit units of failed Course (Course E) | 2 | | | | |
| Total credit units earned for the semester | 21 | | | | |

$$\begin{aligned} \text{GPA} &= \frac{\text{Total points}}{\text{Total credit units for the particular semester (graded courses)}} \\ &= \frac{16+20+15+9.32+0}{20} \\ &= 3.02 \end{aligned}$$

- To calculate your CGPA, total the credit hours and then the grade points from all semesters.
- Divide the total grade points by the total credit hours.

4. ACADEMIC STANDING FOR POSTGRADUATE RESEARCH PROGRAM

- Research students are required to complete the online Research Progress Report at the end of every regular semester and will be evaluated by their supervisors.
- A student's academic standing is determined at the end of every regular semester based on status as shown in the table below.

| Research Grade | Academic Standing |
|---------------------|-----------------------|
| Satisfactory (MM) | Good Pass (KB) |
| Unsatisfactory (TM) | Conditional Pass (KS) |
| Fail (GG) | Fail (KG) |

- A student will be dismissed from the academic programme if obtained Failure Standing (KG).
- A student with Probationary Standing (KS) for two consecutive semesters will be given Failure Standing (KG) and will be dismissed from the academic programme.
- Research students are also required to complete the Research Methodology course and University's course for graduation.

**This Academic Guidebook is valid subject to new updates and UTM Academic Rules of Graduate Studies*