

MASTER OF PROJECT MANAGEMENT

PROGRAMME SPECIFICATIONS

| 1. Programme Name | | Master of Project Management | |
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| 2. Final Award | | Master of Project Management | |
| 3. Awarding Institution | | UTM | |
| 4. Teaching Institution | | UTM | |
| 5. Programme Code | | MKAZ | |
| 6. Professional or Statutory Body of Accreditation | | MQA | |
| 7. Language(s) of Instruction | | English | |
| 8. Mode of Study (Conventional, distance learning, etc) | | Conventional | |
| 9. Mode of operation (Franchise, self-govern, etc) | | Self-governing | |
| 10. Study Duration (per semester) | | 14 weeks | |
| 11. Study Duration (semester) | | Full time | |
| | | Minimum | 3 |
| | | Maximum | 8 |
| 12. Entry Requirement | <ol style="list-style-type: none"> Degree with cumulative grade average of 3.00, or equivalent from a recognized university An international student should satisfy the English language minimum requirement of TOEFL score of 550 or IELTS band 6.0, or equivalent. A local student must produce a satisfactory score from MUET. Accepted by the post-graduate selection committee of the faculty involved. At least one member from the faculty who has at least a Master degree in the field of study is qualified and willing to supervise the candidate. Pass the health, financial and other requirements as specified by the university. | | |
| 13. Programme Educational Objectives (PEO) | | | |
| <ol style="list-style-type: none"> Mastery of competencies and integration of knowledge required in the engineering profession. An appreciation of the value of lifelong learning and possessing enthusiasm and strong commitment to continued acquisition of new knowledge and skills. Advanced leadership and team working skills that allow environmental engineers and professionals to become visionary and inspirational leaders. Highly developed oral and written communications skills that fit at all level, appropriate to the field of engineering. An appreciation of the ethics and integrity in management, leadership and good governance and responsibility to their professions and community. | | | |
| 14. Programme Learning Outcomes (PLO) | | | |
| Code | Intended Learning Outcomes | Teaching and Learning Methods | Assessment |
| (a) Technical Knowledge and Competencies | | | |
| PLO1 | Advanced Knowledge Graduates are able to incorporate in-depth relevant knowledge in professional practices for the benefits of both national and international communities. Graduates are able to apply their knowledge and skills in the | Lectures, seminars, projects, directed reading, tutorials independent study, active learning | Examinations, group and individual project reports, presentations, assignments, problem-based exercises |

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| | planning, analysis, design and supervision of works related to the civil engineering discipline. | | |
| PLO2 | Research Skills Graduates are able to formulate hypothesis, design and perform experiments/research scientifically to solve and explain observed phenomena. | Lectures, seminars, projects, directed reading, tutorials independent study, active learning | Examinations, presentations, assignments, problem-based exercises, project reports, design tasks, simulation exercises |
| PLO3 | Critical Thinking & Problem Solving Graduates are able to manage conducive working environment qualities problem solving and higher order thinking skills. Graduate are technically competent in solving problems logically, analytically and creatively based on sound facts and ideas. | Computer hands-on sessions, laboratory/field works, lectures, independent study, seminars, active learning, projects | Examinations, presentations, assignments, problem-based exercises, project reports, design tasks, simulation exercises |
| (b) Generic Skills | | | |
| PLO4 | Ethics, Values and Professionalism Graduates are able to balance professional and ethical responsibilities including contemporary issues and environmental awareness. | Pre-Projects and Masters Project, lectures, tutorials, group projects, independent study | Masters Project thesis, project reports, design tasks, examinations, presentations, assignments |
| PLO5 | Communication Graduates are able to apply a wide range of relevant knowledge through effective oral and written communication. Graduate are able to communicate effectively across a range of contexts and audiences. | Lectures, tutorials, directed reading, simulation exercises, group project, independent study, problem-based learning, projects | Masters Project thesis, project reports, design tasks, examinations, presentations, assignments |
| PLO6 | Lifelong Learning Graduates are able to adopt the latest relevant knowledge and cutting-edge technologies through life-long learning process. | Group projects, independent study, field trips | Oral presentations, project reports |
| 15. Classification of Subjects | | | |
| No. | Classification | Credit Hours | Percentage |
| 1. | University | 6 | 13% |
| 2. | Programme Core | 28 | 61% |
| 3. | Programme Electives | 6 | 13% |
| 4. | Free Electives | 6 | 13% |
| TOTAL | | 46 | 100% |
| For engineering programme please fill up the following classification. (Others please refer to the Statutory Body guidelines) | | | |

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|---|---|------------------------|------------|-------------------------|------------|------------|------------|
| A. | Engineering Subjects | | 87% | | | | |
| | (a) Lecture/Project/Design studio | 30 | | | | | |
| | (b) Masters Thesis Project | 10 | | | | | |
| Total credit hours for Part A | | 40 | | | | | |
| B. | Related Subjects | | 13% | | | | |
| | (a) Management/Law/Humanities/Ethics | 6 | | | | | |
| | Total credit hours for Part B | 6 | | | | | |
| Total Credit Hours for Parts A and B | | 46 | 100% | | | | |
| Total credit hours to graduate | | 46 credit hours | | | | | |
| 16. Programme structures and features, curriculum and award requirements | | | | | | | |
| The course is offered on full-time mode and is based on a 2-Semester Academic Session with several subjects being delivered and assessed in each Semester. Assessment is based on final examination and coursework conducted throughout the semester. | | | | | | | |
| Award requirements: | | | | | | | |
| To graduate, students should: | | | | | | | |
| <ul style="list-style-type: none"> • Attain a total of no less than 46 credit hours with minimum CPA of 3.0. • Complete and pass the Master Project. | | | | | | | |
| 17. Mapping of Programme Learning Outcomes to Subjects | | | | | | | |
| CORE ENGINEERING SUBJECTS OFFERED (COMPULSORY) | | | | LEARNING OUTCOME | | | |
| Code | Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
| Core Course | | | | | | | |
| MKAB 2203 | Fundamentals of Project Management | √ | √ | √ | | | √ |
| MKAB 2213/ MKAM 1053 | Planning & Scheduling | √ | | √ | | √ | |
| MKAB 2373 | Project Quality Management | √ | | √ | √ | | |
| MKAB 2233 | Business Planning & Financial Management | √ | | √ | √ | | |
| MKAB 2303 | Innovation & Problem Solving | √ | | √ | √ | | |
| ELECTIVE ENGINEERING SUBJECTS OFFERED (CHOOSE 2 FROM MKAZ & 2 FREE ELECTIVES) | | | | LEARNING OUTCOME | | | |
| Code | Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
| Elective Course | | | | | | | |
| MKAB 2253 | Communication & Stakeholder Management | √ | √ | | | √ | |
| MKAB 2263 | Performance Measurement & Reporting | √ | | √ | √ | | |
| MKAB 2273 | Interpersonal Skills, Cross Culture Management & Leadership | √ | | √ | √ | | |
| MKAB 2283 | Strategic & Change Management | √ | | √ | √ | | |
| MKAB 2293 | Organizational Design & Governance | √ | | √ | √ | | |
| MKAB 2313 | Quantitative Analysis | √ | | √ | √ | | |
| MKAB 2363 | System Thinking | √ | | √ | √ | | |
| MKAB 2383 | Business Law & Ethics | √ | | √ | √ | | |
| MASTER'S PROJECT | | | | LEARNING OUTCOME | | | |
| Code | Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
| MKAB 2394 | Masters Project I | √ | √ | √ | √ | √ | √ |
| MKAB 2406 | Masters Project II | √ | √ | √ | √ | √ | √ |

| MASTER'S PROJECT | | LEARNING OUTCOME | | | | | |
|---|----------------------------------|------------------|-----|-----|-----|-----|-----|
| Code | Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
| UABA 0013 | Principle Engineering Management | √ | √ | √ | √ | | |
| UAPA 0013 | Research Methodology | √ | √ | √ | √ | | √ |
| 18. Our Uniqueness | | | | | | | |
| <ol style="list-style-type: none"> 1. No. of graduates 2. Employability rate 3. Leaders in industry 4. Diversity of lecturers 5. Biggest Civil Engineering Faculty in the world 6. One of the biggest Civil Engineering lab/facilities in the region 7. ISO 9001:2000 and ISO 17025 accreditations (the only one in the world for Civil Engineering) | | | | | | | |
| 19. Career Prospects and Career Path | | | | | | | |
| Graduates of the programme can work as a Project Engineer, Construction Engineer or Civil Engineer | | | | | | | |
| 20. Facilities available | | | | | | | |
| List of laboratories: <ol style="list-style-type: none"> 1. Structural Engineering Laboratory 2. Material Engineering Laboratory 3. Hydraulics and Hydrology Laboratory 4. Environmental Laboratory 5. Geotechnical Laboratory 6. Highway & Transportation Laboratory 7. Computer Laboratory 8. CETU 9. ITUCE 10. Resource Centre 11. Surveying Unit | | | | | | | |

CURRICULUM STRUCTURE

| University's General Elective Courses (Total : 6 credits) | | |
|---|--|-------------------|
| UABA 0013 | Principle of Engineering Management | 3 credits |
| UAPA 0013 | Research Methodology | 3 credits |
| Core Courses (Total : 18 credits) | | |
| MKAB 2203 | Fundamentals of Project Management | 3 credits |
| MKAB 2213 | Planning & Scheduling | 3 credits |
| MKAB 2233 | Business Planning & Financial Management | 3 credits |
| MKAB 2253 | Communication & Stakeholder Management | 3 credits |
| MKAB 2303 | Innovation & Problem Solving | 3 credits |
| MKAB 2373 | Project Quality Management | 3 credits |
| Elective Courses – Choose any two from the following list (Total : 12 credits) | | |
| MKAB 2223 | Life Cycle & Project Delivery Methodologies | 3 credits |
| MKAB 2243 | Client Needs Determination, Design Management & Sustainability | 3 credits |
| MKAB 2263 | Performance Measurement & Reporting | 3 credits |
| MKAB 2273 | Interpersonal Skills, Cross Culture Management & Leadership | 3 credits |
| MKAB 2283 | Strategic & Change Management | 3 credits |
| MKAB 2293 | Organizational Design & Governance | 3 credits |
| MKAB 2313 | Quantitative Analysis | 3 credits |
| MKAB 2363 | System Thinking | 3 credits |
| MKAB 2383 | Business Law & Ethics | 3 credits |
| Masters Project (Total : 10 credits) | | |
| MKAB 2394 | Masters Project I | 4 credits |
| MKAB 2406 | Masters Project II | 6 credits |
| TOTAL CREDITS | | 46 credits |
| Duration of Study | | |
| Full Time | : | 4 – 8 semester |

COURSE SYNOPSIS

CORE COURSES

MKAB 2203 - Fundamentals of Project Management

This course aims to provide a thorough understanding on the fundamental knowledge of project management theory and principles. It begins with the reviewing of the evolution of the management theory and the influence of the various schools of thought in management. The issues and challenges faced by the contemporary managers will be discussed within the current business environment context. Then the focus will be shifted to the project management environment. This course is conducted within the context of nine areas of knowledge as stipulated in PMBOK. The course will relate how the underlying principles of management theory are being applied to the project management perspective at the various phases of its life cycle. Major constraints of time cost quality in project management environment will be elaborated. The elements of project management critical to the success of a project also are identified and explained. The specific focus will also be given on applying the contemporary management in managing current project. The principles and tools are integrated and clarified through case studies from a variety of project organizational settings and through creation of project management plans developed by students working in teams. Discussions will also emphasize on the importance of the global and environmental impacts on the project.

MKAB 2213 - Planning & Scheduling

This course provides knowledge on contemporary practice in project planning and scheduling process in managing construction project. The main focus of this course is to develop the knowledge and skill to enable the student to use contemporary planning and scheduling software that are available in the market. Prior to that the candidate will be given comprehensive understanding and skill on the basic fundamental of scheduling techniques particularly using network diagram technique. The importance of the technique, the advantages and disadvantages as well as their practical application in construction project will be analysed. Major software in project planning and scheduling MS Project and Primavera Project Planner will be taught. The student will be able to used major software available in the market software to solve planning and scheduling problems. Advance application particularly related to project monitoring and tracking also included in this course. The concept and application of Earn Value Management system will be taught and the student will be able to appraise project performance

from time to time and recognised major delay and overbudget problems. Issue related to project delay and EOT will be also addressees as well as contractual implication due to schedule changed. Finally, the issue related to project schedule information exchange will be highlighted in this course.

MKAB 2233 - Business Planning & Financial Management

The course focuses on the theory and practice of financial decision making and financial management within organizations. Students are introduced to some of the challenging issues facing managers in today's global financial landscape. The combination of quantitative and qualitative management tools presented in the course offer the essentials knowledge for the successful financial management. Its subject matter includes a review of the economic logic of financial decisions, drawing on the theories of finance, economic principles and behavioral and organizational aspects. The topics covered are capital budgeting, analysing business performance, managing working capital, investment decision making. At the end of the course, students should possess a sound knowledge of the financial management and are able to apply it in their practice.

MKAB 2253 - Communication & Stakeholder Management

This course focuses on project personnel building and maintaining robust project relationships by using appropriate tools to identify key stakeholders and then to manage the relationships between their unique stakeholders community and the project. The course is designed to expose students to both the methodology and the supporting theory to provide students with a thorough understanding of both stakeholder and communication theory and practice in a project environment and how effective management of these factors will contribute to a successful project outcome.

MKAB 2303 - Innovation & Problem Solving

Ideas are the currency in the current era of the mind. Ideas are the starting point of problem solving and innovation in organization. This course focusses on the tools and techniques for problem identification, problem analysis and creative problem solving. Students are required to analyse and creatively solve real problem in their workplace

MKAB 2373 - Project Quality Management

This course provides students with a firm grasp on concepts of quality management and how it affects the whole process of project and operations management. It also provides students on wide spectrum of quality management from strategic to operational level considering

internal and external working environment.

ELECTIVES COURSES

MKAB 2263 - Performance Measurement & Reporting

The main reasons for measuring performance for a company are to pursue opportunities for performance improvement and respond to internal business pressures for reporting performance. The board of directors and senior management team usually want to know how the company was performing globally on specific issues in particular. Performance data is needed to help managers identify opportunities to reduce impact, risk & costs and share their successes around the world. Performance data are both financial and non-financial

MKAB 2273 - Interpersonal Skills, Cross Culture Management & Leadership

In this course students will be introduced to interpersonal skills competencies and cross cultural management. Topics discuss in the interpersonal skills including stages of interpersonal relationship, social penetration theory, perception, listening skills, verbal and non-verbal communication skills and elements in interpersonal relationship skills. Among issues discuss in cross cultural management are nature of culture, culture values, dimension of culture and Hofstede cultural dimensions, cross culture in Project Management and managing conflict. In addition, this course also discusses topics related to leadership namely leadership styles and power and politics.

MKAB 2283 - Strategic & Change Management

In this course, participants are given a foundation of basic strategy concepts for knowledge and applications both at the organizational and the strategic business unit (SBU) levels.

MKAB 2293 - Organizational Design & Governance

In this course students will study how organizations are social entities that are goal-orientated and which have coordinated activity systems linked to the organization's working environment and exposed to business strategies integrated to an organizational design which interacts successfully with the internal/external environments

MKAB 2313 - Quantitative Analysis

This course is one of the elective subjects offered by the Department of Geotechnics and Transportation. The course exposes the student to practical quantitative approach to mathematical decision-making. The

emphasis in this course will be on statistics and selected methods of using statistics to make inferences and judgments about phenomena. Knowledge about statistics and statistical analysis can help students interpret data for the purpose of providing meaningful insights about the problem being investigated. It is hoped that this course will support the ability of students to make sense of statistics in both theoretical and practical term

MKAB 2363 - System Thinking

This subject covers the basic concepts, models, methodologies and implementation issues in Systems Thinking. The systems approach distinguishes itself from the traditional analytic approach by emphasizing the interactions and connectedness of the different components of a system. Students will learn essential concepts in hard systems approaches to decision making such as in Systems Engineering and Cybernetics versus the Soft System Methodology (SSM), the Fifth Discipline and Swarm Intelligence. Systems Thinking include holistic model building and distinguishing between conceptual models and reality; thinking in feedback loops and interrelated structures; recognizing patterns over time such as oscillations and delays as well as in chaotic systems. Students will learn to visualize various system dynamics through diagramming methods like Causal Loop Diagrams, Influence Diagrams and Rich Pictures. Using systems thinking tools and framework such as the Cynefin Framework and Blue Ocean Strategy Scenario Planning, work groups will conduct sense making analysis about the complexities of systems and transform them into implementation models.

MKAB 2383 - Business Law & Ethics

Businesses and managers are expected to behave ethically within the ethical and legal boundaries. Dealings of managers with internal and external parties are against the backdrop of the country's legal system. This course introduces the student to the aspects of legal system in Malaysia that is relevant to businesses and managers. It covers courts and the legal system in Malaysia as well as laws dealing with the following; Elements of Contract, Types of Contract, Consumer Protection, Legal Issues in Business Organizations, Law of Tort and public laws relating to business.