UPM PUTRA PERTANIAN UNTUK RAKYAT
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

FAKULTI KEJURUTERAAN
FACULTY OF ENGINEERING
فاكولتي كجوروتراءن

Master Programme by Coursework
Faculty of Engineering

Master in
Engineering Management

Scan Here for More Info

Assoc. Prof. Dr. Zulkiflle Leman

+6019-616 2115

zleman@upm.edu.my

www.eng.upm.edu.my

Introduction

Engineering management is concerned with the design, improvement, and implementation of integrated systems involving people, materials, information, equipment, and energy. It applies specialized knowledge and skills in mathematical, physical, and social sciences, together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the outcomes derived from such systems.

Admission Requirements

1. Bachelor's Degree in Engineering or Engineering Technology:
   - CGPA ≥ 2.75; or
   - CGPA 2.50–2.74 with at least 3 years of relevant work experience; or
   - CGPA 2.25–2.49 with at least 5 years of relevant work experience.
2. Bachelor's Degree in a related field of Science or Technology:
   - CGPA ≥ 3.00; or
   - CGPA 2.75–2.99 with at least 3 years of relevant work experience; or
   - CGPA 2.50–2.74 with at least 5 years of relevant work experience.

Note: Holders of a Bachelor's degree in Science and Technology or its equivalent (not in Engineering or Engineering Technology) are required to take and pass a prerequisite module for this programme, namely the course EMM5101 Principles of Industrial Engineering.

Language Requirements

English Language Requirement (for international candidates):

- TOEFL (Paper-based Test): minimum 550, or
- TOEFL (Internet-based Test): minimum 79–80, or
- IELTS (Academic Training): minimum Band 6.0.

Note: Candidates who do not meet the minimum required scores for TOEFL or IELTS will be granted provisional admission. Such candidates will be required to pass the English Placement Test conducted by the University.

Programme Requirements

Credit Requirements for Graduation

Students enrolling under this programme must fulfil 40 credits of coursework to graduate. The credit distribution for compulsory courses, elective courses and dissertation is as follows:

- Compulsory Courses 21 credits
- Elective Courses 9 credits
- Dissertation 10 credits

Note: EMM5990 - Dissertation is carried out over two semesters (4+6 credits)

Course Synopsis

COMPULSORY COURSES

EMM5100 | Research Methodology | 3 Credits
This course encompasses the fundamental principles of research, covering the organization of relevant information, the determination of appropriate research methodology, and the production of research proposal papers. Emphasis is placed on methods, research design and ethics, as well as skills in scientific writing and oral presentation.

EMM5604 | Industrial Marketing Management | 3 Credits
This course covers the difference between industrial or business-to-business (B2B) marketing with consumer marketing. This course also discusses the concepts of core marketing in industrial markets, design and performance evaluation through various marketing approaches. The discussion also includes generic marketing strategies and marketing tools used in the development of marketing mix in the industrial markets.

EMM5606 | Manufacturing Operations Management | 3 Credits
This course covers the aspects of industrial operations management, product planning, forecasting, master production scheduling, materials requirement planning, capacity planning, inventory management, scheduling, loading and sequencing, supply chain management.

EMM5608 | Industrial Organisation Management | 3 Credits
This course covers the principles and concepts of efficient management in decision-making and the impacts of environmental forces. Emphasis is also given on the responsibilities of the leader or manager in planning, organizing, leading, controlling, and managing changes to an organization.

EMM5616 | Industrial Safety, Health and Environmental Management | 3 Credits
This course covers assessments on safety, health and environmental management, which include the identification and control of hazards in the workplace and the human variables involved in causing and preventing accidents. It also discusses the relevant laws, regulations and standards as they apply to workplace safety and health and relevant issues in promoting safety and health in the organization.

EMM5628 | Financial Analysis for Engineers | 3 Credits
This course covers financial statement analysis, managerial accounting, capital and operating expenditures, pricing strategies, analysis of breakeven point, depreciation of assets, investment planning and decision making.

EMM5632 | Engineering Project Management | 3 Credits
This course covers the elaboration of project management in engineering. This course also prepares students with the method to construct project proposals with regard to risk management in project development. Project control and implementation methods are emphasized to ensure the objectives, time and cost of the project can be achieved.

EMM5990 | Dissertation | 10 Credits
This course covers essential aspects of preparing and conducting research studies, including developing skills in literature review, applying appropriate methodologies, and collecting and analyzing data. Emphasis is also placed on ethical scientific writing, in accordance with established guidelines.

ELECTIVE COURSES

Student must take at least three (3) elective courses out of the listed courses below

EMM5602 | Total Quality Management | 3 Credits
This course covers the theories and principles of quality and its management. Applications of quality standards, strategies, tools, and techniques for industrial implementation are also emphasized.

EMM5614 | Maintenance Management Systems | 3 Credits
This course covers the maintenance management system, which includes the nature and types of failure and maintenance, planned maintenance such as preventive and predictive maintenance. It also emphasizes on the importance of condition maintenance, reliability and maintainability, computerised maintenance management system, its implications and the role and methods of maintenance system auditing in the industry.

EMM5620 | Value Engineering | 3 Credits
This course covers the background and principles of Value Engineering (VE), highlighting its distinction from other improvement techniques. It covers the seven phases of the VE framework and introduces students to various analytical methods, with a focus on function analysis within a synergistic team environment.

EMM5626 | Technology Management | 3 Credits
This course provides student with recent technology in planning for the new product development. It emphasizes on the planning development method for technology management and creativity in the making of new product. It also comprises technology management concept in decision making.

EMM5634 | Risk Management in Engineering | 3 Credits
This course provides students with various aspects of risk which includes procedures to understand the risks, identification, analysis and assessment methods. It also equips the students with the methods to treatment and control of risks to ensure engineering risk management objectives can be realized.

EMM5640 | Strategic and Sustainable Management | 3 Credits
The course covers a comprehensive understanding of sustainable and strategic management within organizations, including the analysis and adaptation of necessary management skills for effective implementation. Emphasis is placed on identifying short-term performance issues and strategies to achieve goal shifts, involving resource assessment and performance measurement. Through this approach, students will gain in-depth knowledge related to sustainable management and its applications in organizational contexts.

EMM5714 | Facilities Layout | 3 Credits
This course equips students with skills in planning, facilities layout design, flow analysis, and activity relationship analysis for the development of facilities layouts. Conventional techniques and modern computing are applied in designing facilities layouts to minimize material handling flow at minimal cost.

Fees	Master Without Thesis	
	Malaysian Student	International Student
Basic Fees (1st semester)	RM 1,350	RM 2,400
Basic Fees (2nd and subsequent semester)	RM 1,100	RM 2,150
Credit Fees – Subject to change	RM 370 / credit	RM 450 / credit