




**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA


Razak Faculty of Technology  
and Informatics


# Master of Science (Systems Engineering)

MQA/SWA11643


“LENS FOR CREATING SUCCESSFUL SYSTEMS.  
MANAGE COMPLEXITY WITH MACHINE LEARNING”


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## PROGRAMME OVERVIEW

### Master of Science (Systems Engineering)

program is designed to combine rigorous and in-depth fundamental of system engineering that consists of five engineering specialisation ranging from communication systems, electronic systems, industrial systems, intelligence systems and power systems. The core courses are focusing on systems engineering, management, analysis and optimisation of systems, data analysis, software and entrepreneurial skills. The program provides graduates who understand the needs of consumers, functional requirements on the development stage, documentation requirements, and next, the design synthesis and system validation. Students of this program will be exposed to a variety of specialised courses to provide students with the knowledge and skills to improve their skills in their careers. Besides, they also have the opportunity to continue their education to a higher level.

## ENTRY REQUIREMENTS

A Bachelor's Degree in Engineering , or Science, or Computer Science , or Mathematics with good honours from Universiti Teknologi Malaysia or any other institution of higher learning recognised by the Senate;  
OR

A qualification equivalent to a Bachelor's Degree as per above area and experience in the relevant field recognised by the Senate.

### Additional requirement for International Applicant

An English Certificate of IELTS with the minimum band of 6.0 OR TOEFL with the minimum score of 550

## CORE COURSES

- Systems Engineering and Analysis
- Data Analysis for Systems Engineering
- Scientific Computing for System Engineer
- Entrepreneurship for Scientists and Engineers
- Engineering Management, Safety and Economy
- Systems Optimization and Analysis for Operations
- Research Methodology
- 1 University General Course

## ELECTIVE COURSES

- Lean Operations
- Intelligent Systems
- Project Management
- Ubiquitous Computing
- Intelligent Data Analysis
- Advanced Sensor Systems
- Supply Chain Management
- Human-Computer Interaction Design
- Ergonomic and Human Factor Engineering

## MASTER PROJECT

- Master Project 1
- Master Project 2

## CAREER OPPORTUNITIES

- Project Manager
- Systems Engineer
- Systems Manager
- Systems Consultant
- Systems Data Scientist
- Systems Administrator
- Chief Technology Officer



COURSEWORK (46 CR)



Intake: February and September



Package 1: Weekdays Class  
1.5 years (3 semesters) - 4 years (8 semesters)  
Package 2: Weekend Class  
2 years (4 semesters) - 4 years (8 semesters)



*"Think outside of the box.."*

“The knowledge and skills obtained throughout the two years programme have improved me a lot in work as a technology product manager. The program content though not directly related to what I'm doing in my work, however significantly it helps me a lot to think outside of the box and look at things from different angle and perspective”

**AIRUL AZIZI AWANG LAH**  
Technology Product Manager  
TIME dotCom Berhad



*"Outstanding research facilities.."*

“This academic program has improved my knowledge in the engineering field. I love the friendly and safe study environment it offers, as well as the outstanding research facilities that have supported me in my postgraduate work. Subjects taught in the course are useful and able to be applied in my work”

**FATIN HAMIZAH ABDOL RAHIM**  
Staff Officer 2 (Education and Training Command )  
Royal Malaysian Air Force