



Innovation  
Branding  
Solution  
Marketing  
Analysis  
Ideas  
Success  
Management

Solution



POLICY  
RESEARCH  
BUSINESS POLICY  
SYSTEM  
DYNAMIC  
COMPUTER AID ENGINEERING  
INNOVATIVE

OPERATION MANAGEMENT  
DESIGN ANALYSIS  
RISK-BENEFIT  
PLANNING  
DEVELOPMENT  
DELIVERY

## MASTER IN SYSTEMS ENGINEERING AND MANAGEMENT (SEM)

KPT REF. NUMBER: (R2/520/7/0025) (09/21)  
MQA REF. NUMBER: MQA/A1453  
School of Science & Engineering



# UNIVERSITY OF THE FUTURE

# MASTER IN SYSTEMS ENGINEERING AND MANAGEMENT (SEM)

The Master degree in Systems Engineering and Management is designed mainly for professional from backgrounds such as engineering, science and business who are employed in large organisations using large and complex production and operation systems in a variety of industries. Through this programme they can upgrade their knowledge and professional skills, particularly in developing a capability to conduct research at an advanced level. The programme is also suitable for recent graduates who are seeking to enhance their knowledge and skills base so as to widen and improve their career choices. Graduates with a Master of Science degree in Systems Engineering and Management find positions as systems engineers, systems managers, systems engineering managers, program managers, project managers, directors of systems engineering and more in a wide range of industries.

## WHAT IS IT ALL ABOUT?

The programme will equip students with the theoretical foundations important in the discipline. The programme extends the ability of students to work across disciplinary boundaries. It helps to develop analytical skills needed to design and build complex systems and also exposes students to management concepts and tools relevant for managing such systems. Through coursework and research students will be taught how to meet the demands of the discipline, both present and future. The programme requires both coursework and research (MODE B & C). The coursework consists of Eight (MODE C) or Six (MODE B) comprising core courses, required and elective programme courses and elective non-programme courses. A thesis or Project Paper based on research in a relevant topic is also required. The programme requires a minimum of 3 semesters of fulltime study.

## Programme Duration

The duration of study for fulltime is 1.5 to 3 years and for part-time is 2 to 4 years





## Programme Structure

- Introduction to Technology and Policy
- Operations Research and Planning
- System Dynamics for Business Policy
- Operations Management
- Engineering Risk-Benefit Analysis
- System and Project Management
- Computer Aid Engineering and Design
- Product Design and Development
- Innovative Project Delivery



## Curriculum Outline

- Introduction to Technology and Policy
- Operations Research and Planning
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- Innovative Project Delivery

Success

Solution

## Career Path

The Ms. in SEM degree also allows for specialization in several industries prominent in the information assurance and cyber security; telecom and information technology networks; healthcare systems; enterprise systems; energy resources infrastructure; transportation; retail and consumer goods; and financial services.

Some positions that require education the SEM program provides include

- Systems Project Manager for various engineering (automotive, oil & gas, Power, construction, etc.)
- Chief Technology Officer (CTO), Strategy Officer, Information Officer, Security Officer
- Research and Development Manager, Systems Engineering Manager
- Academics

## Entry Requirements

- Obtained at least a Second Upper Class honours degree or CGPA of 3.00 or above (on a 4-point scale) in a relevant field (or an equivalent qualification) from a university of acceptable standing, and recognised by the Malaysian Government.
- Applicants who do not meet the required minimum qualification but with some relevant working experience will also be considered.

### LANGUAGE PROFICIENCY

- Passed the Test of English as a Foreign Language (TOEFL) with a score of 600, or higher is required; OR
- Passed International English Language Testing Service (IELTS) with a minimum overall score of 6.5 and at least 6.0 on each individual component of the test; OR
- Provide other proof of English proficiency as evaluated through personal interviews with MUST





GPS: 3.154176, 101.596092

Search Maps : Malaysia University of Science and Technology (MUST)



In 1995, the then Prime Minister, Tun Dr Mahathir Mohammad and a delegation from Malaysia made a working visit to Massachusetts Institute of Technology (MIT) and endorsed the establishment of university modelled after MIT. An agreement was signed in January 1997 to establish the Malaysia University of Science and Technology (MUST).

In its formative years, MUST was fully assisted and supported by MIT, a world-renowned university noted for its education and research in advanced science and technology.

MUST emulated MIT's method of teaching and learning which encourages creativity, analytical thinking, problem-solving, innovation and team-building. These are qualities that have been proven to be successful in producing entrepreneurial leadership in science, technology, business and management.

MUST also nurtures a research-driven culture in all fields of expertise to ensure depth of understanding and confidence in facing practical problem. The MIT model has been the impetus of the MUST culture that is vibrant, innovative and purposive to our local environment.



Asia Logistics and Supply Chain Council  
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Block B, Encorp Stand, Garden Office  
No 12, Jalan PJU 5/1, Kota Damansara  
47810 Petaling Jaya, Selangor

[www.must.edu.my](http://www.must.edu.my)

EMAIL : [enquiries@must.edu.my](mailto:enquiries@must.edu.my)  
TEL : +603 6150 8177  
FAX : +603 6151 7577  
FACEBOOK : [facebook/must.edu.my](https://www.facebook.com/must.edu.my)  
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