The modules in the programme are divided between core and foundation areas (of which there are currently two). The modules in the core area represent the fundamental knowledge of concepts and methodology that distinguish the Systems Design & Management (SDM) programme from other programmes. The modules in the foundation areas have been selected from existing graduate modules to provide essential and supporting knowledge from management science and engineering.

A full-time or part-time candidate for the degree of MSc (SDM) must successfully complete a Programme of study consisting of 40 MCs:

1. All four core modules (16 MCs);
2. The remaining 24 MCs can be obtained from the list of elective modules, divided into two foundation areas; a minimum of 8 MCs is to be obtained from each foundation area.

For graduation, a student:

1. Must obtain a minimum CAP of 3.00 (B-) for the best modules equivalent to 40 MCs; and
2. Must obtain at least 40 MCs of which at least 30 MCs must be at a graduate level within the subject or in related disciplines and the remaining credits may be from other levels in the same or other disciplines subject to the approval of the Programme Manager.

**Modules**

The proposed programme consists of four core modules (total of 16 MCs) and a list of electives drawn from existing modules taught by the Faculty of Engineering (with the exception of two elective modules from the NUS Business School). Three of the core modules cover the fundamental concepts and methods in designing and managing engineering systems, and have been specially created for the programme. The current electives have been divided into two areas to provide foundation knowledge in two areas: (a) system methodology and management; and (b) system application.

**Core Modules**

The following are core modules and are 4 MCs each. Candidates have to take all the modules in this list.

- SDM5001 Systems Architecture
- SDM5002 Systems Engineering
- SDM5003 Knowledge Management
- SDM5004 Systems Engineering Project Management or IE5208 Systems Approach to Project Management

**Electives**

The electives are organised into two different foundation areas. All the modules are 4 MCs unless otherwise stated. Candidates have to take at least two modules from the list in each foundation area:

- **Systems Methodology and Management**
SDM5010 Model-Based Systems Engineering
MT5007 Management of Technological Innovation
MT5009 Analyzing Hi-Technology Opportunities
MT5011 Finance for Engineering & Technology Management
IE5003 Cost Analysis and Engineering Economy
CE5603 Engineering Economics and Project Evaluation
MT5012 Marketing of Hi-Tech Products and Innovation
MT5013 Global Innovation Management
MT6001 Research in Technology & Innovation Management
IE5202 Applied Forecasting Methods
IE5203 Decision Analysis
IE5404 Large Scale Systems Engineering
IE5409 Topics in Systems Engineering
PP5240 Applied Policy Analysis

Systems Application

TP5026 Transportation Management & Policy
TP5028 Intermodal Transportation Operations
CE5804 Global Infrastructure Project Management
ME5602 Manufacturing Systems Engineering
ME5205 Energy Engineering
MT5002 Management of Industrial R&D
MT5003 Creativity and Innovation
MT5004 User centred Engineering and Product Development
MT5006 Strategic and New Product Development or IE5211 New Product Management
MT5020 Managing the Human Elements of Technology Management
MT5016 Business Models for Hi-Tech Products
IE5401 Industrial Logistics
CN5191 Project Engineering
EE5702R Advanced Power Systems Analysis
ESE5102 Sludge & Solid Waste Management
TD5101 Specification of Complex Hardware/ Software Systems
SDM5990 SDM Research Project (8 MCs)