جامعة الفيصل
Alfaisal University

كلّية الهندسة
College of Engineering

Master of Engineering & Systems Management (MEM)

Professional Occupations

- Operation Analyst or Manager
- Inventory Analyst or Manager
- Logistic Analyst or Manager
- Supply chain Analyst or Manager
- Quality Analyst or Manager
- Operation Research Analyst
- Process re-engineering Analyst

Program Overview

The mission of the Master in Engineering & Systems Management at Alfaisal University is to transform early to mid-career technical professionals into leaders in the analysis, modeling, improvement and design of complex data-intensive systems including those found in the manufacturing and supply chains, software and service industries with special emphasis on advanced career opportunities in the Kingdom of Saudi Arabia. The Ministry of Education (MOE) approved the M. Sc. in Engineering & Systems Management which can be completed in two years and consists of both thesis and non-thesis tracks.

Both tracks have four core courses while they respectively have an additional four and eight elective courses. Moreover, students choosing the non-thesis track must complete a research project. The elective courses span the themes "Decision Analysis and Data Analytics", "Manufacturing & Supply Chain Management" as well as "Intelligent Industrial Systems, and it is moreover possible for students to choose some elective courses in any college at Alfaisal University subject to the approval of the program director. This program is not an MBA; it is a technical master's degree focused on engineering, data science and computation. "Systems thinking" is an important part of the degree, whether applied to the improvement of existing systems and operations or the creation of new products and services. Personal engineering leadership development is a mandatory part of the program.

Competitive Edge

Organizations seek technical liaison to management who can understand the complexity of technological and business- related challenges. The Engineering management program meets the demand for such professionals and are distinctive among other graduate engineering programs in combining management and engineering. The MEM program was designed in collaboration with the Centre for Complex Engineering Systems (CCES) KACST and MIT.

Tracks

Optional tracks are available for students in the areas of:

- Decision Analysis and Data Analytics
- Manufacturing & Supply Chain Management
- Intelligent Industrial Systems

Collaborators

Admissions Requirements

For admission criteria and how to apply, visit http://admissions.alfaisal.edu

For more information about Alfaisal›s

Master of Engineering & Systems Management visit:
http://coe.alfaisal.edu/departments/gp_mem

+ 966 11 215 7762

coe@alfaisal.edu

twitter.com/alfaisaluniv

www.youtube.com/user/alfaisaluniv

http://coe.alfaisal.edu/departments/mem_home

Smart, desirable, feasible, marketable innovation to make the world better is what we do. IT's WHAT YOU'LL DO.

CURRICULUM

Courses-Only Option: 2-Year Curriculum (42 Credit Hours Total)

First Year - Fall Semester		
Course Code	Course-Title	CRHs
MEM 501	Statistics & Data Analytics	3
MEM 503	Project & Program Management of Complex System	3
MEM 5**	Elective	3
MEM 5**	Elective	3
	Total	**12**

First Year - Spring Semester		
Course Code	Course-Title	CRHs
MEM 504	Advanced Engineering Economics & Cost Analysis	3
MEM 505	Operations Engineering & Management	3
MEM 5**	Elective	3
MEM 5**	Elective	3
	Total	12

Second Year - Fall Semester		
Course Code	Course-Title	CRHs
MEM 5**	Elective	3
MEM 5**	Elective	3
MEM 5**	Elective	3
	Total	**9**

Second Year - Spring Semester		
Course Code	Course-Title	CRHs
MEM 5**	Elective	3
MEM 601	Research/Capstone Project	6
	Total	**9**

Thesis Option: 2-Year Curriculum (42 Credit Hours Total)

First Year - Fall Semester		
Course Code	Course-Title	CRHs
MEM 501	Statistics & Data Analytics	3
MEM 503	Project & Program Management of Complex System	3
MEM 5**	Elective	3
MEM 5**	Elective	3
	Total	**12**

First Year - Spring Semester		
Course Code	Course-Title	CRHs
MEM 504	Advanced Engineering Economics & Cost Analysis	3
MEM 505	Operations Engineering & Management	3
MEM 5**	Elective	3
MEM 5**	Elective	3
	Total	**12**

Note: Thesis option requires 18 CRHs of thesis courses over two semesters.

Elective Courses

Track 1: Decision Analysis & Data Analytics		
Course No.	Course name	CRHs
MEM 502	Systems Architectural and Engineering	3
MEM 506	Leadership Development for Engineers & Systems Managers	3
MEM 508	Stochastics Methods doe Engineers & Systems Managers	3
MEM 509	Systems Modelling and Simulation	3
MEM 510	Decision & Risking Analysis for Engineers & Systems Managers	3
MEM 511	Deterministics Management Science	3
MEM 512	Special Topics I	3
MEM 513	Special Topics II	3

Track 2: Manufacturing & Supply Chain Management		
Course No.	Course name	CRHs
MEM 502	Systems Architectural and Engineering	3
MEM 506	Leadership Development for Engineers & Systems Managers	3
MEM 512	Special Topics I	3
MEM 513	Special Topics II	3
MEM 514	Logistics and Supply Chain Engineering	3
MEM 515	Advancement Quality Engineering	3
MEM 516	Methodologies for Operational Excellence	3
MEM 517	Production Systems Analysis and Design	3
MEM 518	Warehouse Systems Analysis and Design	3

Track 3:Intelligent Industrial Systems		
Course No.	Course name	CRHs
MEM 507	Applied Computation and Data Science	3
MEM 512	Special Topics I	3
MEM 513	Special Topics II	3
MEM 524	Artificial Intelligence	3
MEM 525	Machines Learning	3
MEM 526	Advanced Big Data	3
MEM 527	Industrial Internet of Things (IIoT)	3