جامعة الفيصل
Alfaisal University

كلية الهندسة والحوسبة المتقدمة
College of Engineering and Advanced Computing

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 reengineering Analyst

Program Overview

The Master in Engineering & Systems Management (MEM) program at Alfaisal University is designed in partnership with KACST and MIT, to offer students distinctive learning experience in engineering leadership, complex systems management, and more. The program is a two-year master's degree, offered in thesis and non-thesis tracks, that prepares early- to mid-career professionals to lead the analysis, modeling, improvement, and design of complex data-intensive systems in areas such as manufacturing, supply chains, software, and services, with strong relevance to advanced career opportunities in Saudi Arabia. The program emphasizes systems thinking, engineering, data science, computation, and personal engineering leadership development. The program offers students opportunities to connect engineering and management in ways that strengthen their academic preparation and professional growth.

Program Objectives:

- Analyze, model, improve and design complex data-intensive systems to advance career opportunities.
- Deploy student's academic research experience in engineering management throughout their future professional carriers.
- Employ engineering management, communication and leadership skills to advance communities.

ABET Engineering Accreditation Commission
ABET Accredited Program

Tracks

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

More details are available on the department's website.

Collaborators

For Admission Requirements and Information:

For admission criteria and how to apply, visit:
https://gradschool.alfaisal.edu/mem

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twitter.com/alfaisaluniv
www.youtube.com/user/alfaisaluniv
https://gradschool.alfaisal.edu/mem

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

CURRICULUM

Thesis Option			
Course Type	Required	Elective	Total CRHs
Core	12	-	12
Elective	-	12	12
Thesis	18	-	18
Total	30	12	42

Course / Project Option			
Course Type	Required	Elective	Total CRHs
Core	12	-	12
Elective	-	24	24
Project / Elective	6	-	6
Total	18	24	42

Course/Project Opt. 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 cources	9
	Total	**9**

Second Year - Spring Semester		
Course Code	Course-Title	CRHs
MEM 5**	Elective	3
MEM 601	Capstone Project or Electives	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	6
	Total	**12**

First Year - Spring Semester		
Course Code	Course-Title	CRHs
MEM 504	Advanced Engineering Economics & Cost	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.

Second year Fall and Spring Semesters		
Course Code	Course-Title	CRHs
MEM 600 / 601	Thesis I-II	18

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

Taming technology and disseminating knowledge is what we do. Engineering innovation to make the world better IS WHAT YOU›LL DO.