

Industrial Engineering Department M.Sc. Study Plan

The Industrial Engineering Department offers the degree of Master of Science (M.Sc.). The M.Sc. degree is obtained after completion of the following requirements:

A. Thesis option (34 Credit Hours):

1) Compulsory Courses (16 Cr.)

Course Number	Course Name	Credit Hours
IE 710	Design of Engineering Experiments	3
IE 740	Reliability and Quality Control	3
IE 750	Operations Research & Management	3
IE 760	Advanced Engineering Materials	3
IE 765	Advanced Manufacturing Processes	3
IE 790	Industrial Engineering Seminar	3

2) Elective Courses (9 Cr.): to be selected from Table 1 in addition to the two following courses:

- i. IE745: Project Management 3 Cr.
- ii. IE770:Advanced Computer Aided Manufacturing 3Cr.

After approval of the Industrial Engineering Department graduate studies committee, a student may study no more than 3 graduate-level credit hours from other departments at the University.

3) Master Thesis (9 Cr.): to be finished within at least two semesters.

B. Comprehensive Exam (Non-thesis) option (34 Credit Hours):

1) Compulsory Courses (22 Cr.)

Course Number	Course Name	Credit Hours
IE 710	Design of Engineering Experiments	3
IE 740	Reliability and Quality Control	3
IE 745**	Project Management	3
IE 750	Operations Research & Management	3
IE 760	Advanced Engineering Materials	3
IE 765	Advanced Manufacturing Processes	3
IE 770**	Advanced Computer Aided Manufacturing	3
IE 790	Industrial Engineering Seminar	1
IE 798	Comprehensive Exam	0

2) Elective Courses (12 Cr.): to be selected from Table 1.

After approval of the Industrial Engineering Department graduate studies committee, a student may study no more than 3 graduate-level credit hours from other departments at the University.

3) Passing IE798 Comprehensive Exam (0 Cr.):

Table 1

Course Number	Course Name	Credit Hours
IE 742	Man-Machine Systems	3
IE 743	Industrial Biomechanics	3
IE 746	Materials Handling and Facilities Layout	3
IE 747	Lean and Agile Production Systems	3
IE 748	Industrial Marketing and Finance	3
IE 751	Decision & Risk Analysis	3
IE 752	Industrial Simulation	3
IE 753	Enterprise Resource Planning	3
IE 754	Manufacturing Strategies	3
IE 755**	Computational Intelligence	3
IE 756	Maintainability & Maintenance Planning	3
IE 757	Product Realization	3
IE 759	Special Topics in Engineering Management	3
IE 761	Tribology	3
IE 762	Mechanical Behavior of Materials	3
IE 763	Non-metallic Materials Technology	3
IE 767	Advanced Machine Tool Design	3
IE 768	Precision Manufacturing	3
IE 771	Analysis of Materials Machining	3
IE 772	Advanced Design for Manufacturability	3
IE 773**	Advanced Robotics Engineering	3
IE 774**	Advanced Control Systems	3
IE 778**	Finite Element Theory	3
IE 779	Special topics in manufacturing	3

**** Table of Equivalent Courses from Other Departments**

Course Number	Course Name	Equivalent Courses From Other Departments
IE 745	Project Management	ME 791
IE 755	Computational Intelligence	ME 781 , CIE 751
IE 770	Advanced Computer Aided Manufacturing	ME 780
IE 773	Advanced Robotics Engineering	ME 789
IE 774	Advanced Control Systems	EE 712 , ME 771
IE 778	Finite Element Theory	ME 713 , CE 733