Curriculum

❒ **Undergraduate Course**

Classification	Subject No.	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
Elective Basic Course	IE200	Introduction to Operations Research	3:1:3(4)	Spring/Fall	
Mandatory Major Courses	IE241	Engineering Statistics I	3:0:3(6)	Spring	
	IE251	Manufacturing Process Innovation	3:1:3(4)	Spring	
	IE261	Information Technology for Industrial Engineering	3:1:3(6)	Fall	
	IE321	Production Management I	3:0:3(6)	Fall	
	IE331	Operations Research I	3:1:3(3)	Spring	
	IE332	Operations Research II	3:1:3(4)	Fall	
	IE341	Engineering Statistics II	3:0:3(6)	Fall	
	IE362	Applied Data Structures and Algorithms	3:1:3(6)	Spring	
Elective Major Courses	IE231	Applied Real Analysis and Probability	3:0:3	Spring	*FEP321
	IE310	Work Study	2:3:3(5)	Fall	
	IE312	Introduction to Human Engineering	2:3:3(2)	Spring	
	IE322	Production Management II	3:0:3(6)	Spring	
	IE342	Regression Analysis and Experimental Designs	3:0:3(4)	Fall	
	IE353	Product Development and Product Information Management	3:1:3(6)	Spring	
	IE361	Human-Computer Interaction Design	3:1:3(4)	Spring	
	IE363	Introduction to Modeling and Simulation	3:1:3(5)	Fall	
	IE371	Service System Engineering	3:1:3	Spring	
	IE413	Aesthetic Engineering	2:3:3(3)	Fall	
	IE414	Cognitive Science and Systems	3:1:3(4)	Fall	
	IE421	Engineering Economy and Cost Analysis	3:0:3(6)	Spring	*CC513
	IE423	Logistics Management	3:1:3(5)	Fall	
	IE425	Project Management	3:1:3(4)	Spring	**
	IE426	Supply Chain Management	3:1:3(5)	Spring	**
	IE431	Introduction to Optimization Theory	3:0:3(3)	Spring	
	IE432	Decision Analysis and Risk Management	3:0:3(4)	Spring	**
	IE434	Introduction to Telecommunication Service and Systems	3:1:3(3)	Spring	**
	IE435	Telecommunication Service and Policy	3:0:3(6)	Fall	**
	IE436	Case Studies for Industrial & Systems Engineering	3:1:3(4)	Fall	
	IE441	Quality Control	3:0:3(6)	Spring	
	IE442	Case Studies in Statistical Data Analysis	3:1:3(5)	Fall	
	IE451	IT Service Engineering	3:1:3(6)	Spring	**
	IE452	System Design Project	2:3:3(5)	Spring	
	IE453	Conceptual Design for Engineering Products	3:0:3	Spring	**
	IE461	Business Process Engineering and Management	3:0:3(6)	Fall	**
	IE463	Information Systems Engineering and Management	3:0:3	Spring	**
	IE471	Introduction to Financial Engineering	3:0:3	Spring	**
	IE472	Socio-Economic Systems Modeling)	3:0:3	Spring	**
	IE473	Financial Economics	3:0:3	Fall	**
	IE481	Special Topics in Industrial Engineering I	3:0:3		
Research	IE490	B.S. Thesis	0:6:3		

Classification	Subject No.	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
	IE495	Individual Study	0:6:1		
	IE496	Seminar in B.S.	1:0:1	Spring	

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2) * stands for substitutable courses

❑ **Graduate Course**

Classification		Subject No.	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
Mandatory General Course	Mand-atory	CC010	Special Lecture on Leadership	1:0:0	Fall	
		CC020	Ethics and Safety II	1AU	Spring/Fall	
	Choose 1	CC500	Scientific Writing	3:0:3	Spring/Fall	
		CC510	Introduction to Computer Application	2:3:3	Spring/Fall	
		CC511	Probability and Statistics	2:3:3	Spring/Fall	*IE641
		CC512	Introduction to Materials Science and Engineering	3:0:3	Spring/Fall	
		CC513	Engineering Economy and Cost Analysis	3:0:3	Fall	*IE522
		CC522	Introduction to Instruments	2:3:3	Fall	
		CC530	Entrepreneurship and Business Strategies	3:0:3	Fall	
		CC531	Patent Analysis and Invention Disclosure	3:0:3	Spring/Fall	
		CC532	Collaborative System Design and Engineering	4:0:4	Spring	
Elective Courses		IE511	Human Centered Systems Design	2:3:3(2)	Spring	**
		IE522	Advanced Topics in Engineering Economy & Cost Analysis	3:0:3(6)	Spring	**
		IE523	Production System Design	3:1:3(5)	Spring	**
		IE524	Optimal Location of Facilities	2:3:3(5)	Fall	**
		IE531	Linear Programming	3:1:3(6)	Spring	**
		IE532	Simulation and System Modeling	3:1:3(6)	Spring	**
		IE533	Systems Engineering	3:0:3(4)		**
		IE535	Network Theory and Applications	3:1:3(4)	Spring	**
		IE536	Scheduling Theory and Applications	3:0:3(4)	Fall	**
		IE537	Business Telecommunication Systems	3:1:3(3)	Fall	**
		IE538	Genetic Algorithms and Applications	3:1:3(3)	Fall	**
		IE539	Convex Optimization	3:1:3(6)	Fall	**
		IE542	Regression Analysis: Theory and Practice	3:0:3(6)	Spring	**
		IE551	Manufacturing System and Supply Chain	3:1:3(6)	Spring	**
		IE552	CAD/CAM and Geometric Modeling	3:1:3(6)	Spring	**
		IE553	Product Lifecycle Management	3:1:3(6)	Fall	**
		IE554	Knowledge-Based Design Methodologies and System	3:1:3	Springl	**
		IE561	Advanced Information System Engineering	3:0:3(6)	Fall	**
		IE565	Information Security Policy and Management	3:1:3	Fall	**
		IE566	Human-Computer Interaction: Theory and Design	3:0:3	Spring	KSE531**
		IE570	Military Operations Research Theory and Applications	3:1:3(4)	Spring	
		IE571	War Game Modeling	3:1:3(4)	Fall	**
		IE572	Analysis of Weapon Systems	3:1:3	Fall	**
		IE573	Healthcare Service Delivery Systems	3:1:3	Spring	**
		IE574	Portfolio management and Financial Optimization	3:0:3	Fall	**
		IE575	Structuring and Pricing of Financial Products	3:1:3	Spring	**
		IE576	Risk Management	3:0:3	Fall	**
		IE577	System Design and Engineering	3:1:3	Fall	MAE565 **
		IE578	Research in Financial Economics	3:0:3	Spring	**

Classification	Subject No.	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
	IE624	Analysis of Inventory Management Systems	3:1:3(6)		
	IE631	Integer Programming	3:1:3(6)	Fall	
	IE632	Stochastic Modeling I	3:1:3(5)	Fall	
	IE633	Queueing Theory	3:0:3(6)	Spring	
	IE635	Combinatorial Optimization	3:0:3(4)	Fall	
	IE636	Intelligent Systems & Soft Computing	3:0:3(3)	Fall	*KSE622
	IE638	Wireless and Cellular Communication Systems	3:1:3(3)	Spring	
	IE639	Supply Chain Optimization	3:0:3(4)	Fall	
	IE641	Mathematical Statistics	3:0:3(8)		
Elective	IE642	Forecasting and Time Series Analysis	3:1:3(6)		
Courses	IE643	Design and Analysis of Experiments	3:1:3(4)	Fall	
	IE644	Life Testing and Survival Analysis	3:0:3(4)	Spring	
	IE645	Quality Engineering	3:0:3(6)	Spring	
	IE646	Data Mining	3:1:3(4)	Spring	*KSE521
	IE661	Applications of AI/DM Technology	3:0:3	Fall	
	IE671	Stochastic Modeling II	3:0:3	Fall	
	IE722	Material Storage & Handling Systems	3:0:3(5)	Fall	
	IE761	Cognitive Systems Engineering	3:0:3(6)		*KSE641
	IE801	Special Topics in Industrial Engineering II	3:0:3		
Research	IE960	Thesis (Master's Course)			
	IE980	Thesis (Doctoral Course)			
	IE965	Individual Study (MS)	1:0:1		
	IE985	Individual Study (Ph.D.)	1:0:1		
	IE966	Seminar in MS	1:0:1		
	IE986	Seminar in Ph.D.	1:0:1		

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