Curriculum(Undergraduate Course)

Classification	Subject No.	Subject Code	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
Elective Basic Course	IE101	31.101	Introduction to Operations Research	3:1:3(4)	Spring and Fall	
Mandatory Major Courses	IE241	31.241	Engineering Statistics II	3:0:3(6)	Spring	
	IE251	31.251	Manufacturing Process Innovation	3:1:3(4)	Spring	
	IE261	31.261	Information Technology for Industrial Engineering	3:1:3(6)	Fall	
	IE321	31.321	Production Management I	3:0:3(6)	Fall	
	IE331	31.331	Operations Research I	3:1:3(3)	Spring	
	IE332	31.332	Operations Research II	3:1:3(4)	Fall	
	IE341	31.341	Engineering Statistics II	3:0:3(6)	Fall	
	IE362	31.362	Applied Data Structures and Algorithms	3:1:3(6)	Spring	
Elective Courses	IE231	31.231	Applied Real Analysis and Probability	3:0:3	Spring	
	IE310	31.310	Work Study	2:3:3(5)	Fall	
	IE312	31.312	Introduction to Human Engineering	2:3:3(2)	Spring	
	IE322	31.322	Production Management II	3:0:3(6)	Spring	
	IE342	31.342	Regression Analysis and Experimental Designs	3:0:3(4)	Fall	
	IE353	31.353	Product Development and Product Information Management	3:1:3(6)	Spring	
	IE361	31.361	Human-Computer Interaction Design	3:1:3(4)	Spring	
	IE363	31.363	Introduction to Modeling and Simulation	3:1:3(5)	Fall	
	IE371	31.371	Service Systems Engineering	3:1:3	Spring	
	IE413	31.413	Aesthetic Engineering	2:3:3(3)	Fall	
	IE414	31.414	Cognitive Science and Systems	3:1:3(4)	Fall	
	IE421	31.421	Engineering Economy and Cost Analysis	3:0:3(6)	Spring	
	IE423	31.423	Logistics Management	3:1:3(5)	Fall	
	IE425	31.425	Project Management	3:1:3(4)	Spring	◎
	IE426	31.426	Supply Chain Management	3:1:3(5)	Spring	◎
	IE431	31.431	Introduction to Optimization Theory	3:0:3(3)	Spring	◎
	IE432	31.432	Decision Analysis and Risk Management	3:0:3(4)	Spring	◎
	IE434	31.434	Introduction to Telecommunication Service and Systems	3:1:3(3)	Spring	◎
	IE435	31.435	Telecommunication Service and Policy	3:0:3(6)	Fall	◎
	IE436	31.436	Case Studies for Industrial & Systems Engineering	3:1:3(4)	Fall	
	IE441	31.441	Quality Control	3:0:3(6)	Spring	
	IE442	31.442	Case Studies in Statistical Data	3:1:3(5)	Fall	

Classification	Subject No.	Subject Code	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
			Analysis			
	IE451	31.451	IT Service Engineering	3:1:3(6)	Spring	◎
	IE452	31.452	System Design Project	2:3:3(5)	Spring	
	IE453	31.453	Conceptual Design for Engineering Products	3:0:3	Spring	◎
	IE461	31.461	Business Process Engineering and Management	3:0:3(6)	Fall	◎
	IE463	31.463	Information Systems Engineering and Management	3:0:3	Spring	◎
	IE471	31.471	Introduction to Financial Engineering	3:0:3		◎
	IE472	31.472	Socio-Economic Systems Modeling)	3:0:3	Spring	◎
	IE473	31.473	Financial Economics	3:0:3	Fall	◎
	IE481	31.481	Special Topics in Industrial Engineering I	3:0:3		
	IE482	31.482	Special (Invited) Lecture I	1:0:1		
	IE483	31.483	Special (Invited) Lecture II	2:0:2		
Research	IE490	31.490	B.S. Thesis	0:6:3		
	IE495	31.495	Individual Study	0:6:1		
	IE496	31.496	Seminar in B.S.	1:0:1	Spring	

◎: stands for courses open to both undergraduate and graduate students

Curriculum(Graduate Course)

Classification	Subject No.	Subject Code	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
Elective Courses	IE511	31.511	Human Centered Systems Design	2:3:3(2	Spring	◎
	IE522	31.522	Advanced Topics in Engineering Economy & Cost Analysis	3:0:3(6)	Spring	◎
	IE523	31.523	Production System Design	3:1:3(5)	Spring	◎
	IE524	31.524	Optimal Location of Facilities	2:3:3(5)	Fall	◎
	IE531	31.531	Linear Programming	3:1:3(6)	Spring	◎
	IE532	31.532	Simulation and System Modeling	3:1:3(6)	Spring	◎
	IE533	31.533	Systems Engineering	3:0:3(4)		◎
	IE535	31.535	Network Theory and Applications	3:1:3(4)	Spring	◎
	IE536	31.536	Scheduling Theory and Applications	3:0:3(4)	Fall	◎
	IE537	31.537	Business Telecommunication Systems	3:1:3(3)	Fall	◎
	IE538	31.538	Genetic Algorithms and Applications	3:1:3(3)	Fall	◎
	IE539	31.539	Convex Optimization	3:1:3(6)	Fall	◎
	IE542	31.542	Regression Analysis: Theory and Practice	3:0:3(6)	Spring	◎
	IE551	31.551	Manufacturing System and Supply Chain	3:1:3(6)	Spring	◎
	IE552	31.552	CAD/CAM and Geometric Modeling	3:1:3(6)	Spring	◎
	IE553	31.553	Product Lifecycle Management	3:1:3(6)	Spring	◎
	IE554	31.554	Knowledge-Based Design System	3:1:3	Spring	◎
	IE561	31.561	Advanced Information System Engineering	3:0:3	Fall	◎
	IE565	31.565	Information Security Policy and Management	3:0:3	Fall	◎
	IE566	31.566	Human-Computer Interaction: Theory and Design	3:0:3		◎
	IE570	31.570	Military Operations Research Theory and Applications	3:1:3(4)	Spring	
	IE571	31.571	War Game Modeling	3:1:3(4)	Fall	◎
	IE572	31.572	Analysis of Weapon Systems	3:1:3	Fall	◎
	IE573	31.573	Healthcare Service Delivery Systems	3:1:3	Spring	◎
	IE574	31.574	Portfolio management and Financial Optimization	3:0:3	Fall	◎
	IE575	31.575	Structuring and Pricing of Financial Products	3:1:3	Spring	◎
	IE576	31.576	Risk Management	3:0:3	Fall	◎
	IE577	31.577	Fundamentals of Systems Engineering	3:1:3	Fall	◎
	IE578	31.578	Research in Financial Economics	3:0:3	Spring	◎
	IE624	31.624	Analysis of Inventory Management Systems	3:1:3(6)		
	IE631	31.631	Integer Programming	3:1:3(6)	Fall	
	IE632	31.632	Stochastic Modeling I	3:1:3(5)	Fall	

Classification	Subject No.	Subject Code	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
	IE633	31.633	Queueing Theory	3:0:3(6)	Spring	
	IE635	31.635	Combinatorial Optimization	3:0:3(4)	Fall	
	IE636	31.636	Intelligent Systems & Soft Computing	3:0:3(3)	Fall	
	IE638	31.638	Wireless and Cellular Communication Systems	3:1:3(3)	Spring	
	IE639	31.639	Supply Chain Optimization	3:0:3(4)	Fall	
	IE641	31.641	Mathematical Statistics	3:0:3(8)		
	IE642	31.642	Forecasting and Time Series Analysis	3:1:3(6)		
	IE643	31.643	Design and Analysis of Experiments	3:1:3(4)	Fall	
	IE644	31.644	Life Testing and Survival Analysis	3:0:3(4)	Spring	
	IE645	31.645	Quality Engineering	3:0:3(6)	Spring	
	IE646	31.646	Data Mining	3:1:3(4)	Spring	
	IE661	31.661	Applications of AI/DM Technology	3:0:3	Fall	
	IE671	31.671	Stochastic Modeling II	3:0:3	Fall	
	IE722	31.722	Material Storage & Handling Systems	3:0:3(5)	Fall	
	IE761	31.761	Cognitive Engineering	3:0:3(6)		
	IE801	31.801	Special Topics in Industrial Engineering II	3:0:3		
	IE802	31.802	Invited Lecture I	1:0:1		
	IE803	31.803	Invited Lecture II	2:0:2		
Research	IE960	31.960	Thesis (Master's Course)			
	IE965	31.965	Individual Study (MS)	1:0:1		
	IE966	31.966	Seminar in MS	1:0:1		
	IE980	31.980	Thesis (Doctoral Course)			
	IE985	31.985	Individual Study (Ph.D.)	1:0:1		
	IE986	31.986	Seminar in Ph.D	1:0:1		

◎: stands for courses open to both undergraduate and graduate students

Substitutable Course List

Substitutable subjects in Department of Industrial & Systems Engineering					
	opened course		**unopened course**		
Classification	Subject No.	Subject Name	Subject No.	Subject Name	Remark
Mandatory Major Courses	IE362	Applied Data Structures and Algorithms	IE362	Programming & practices for Industrial Information System	subject name was changed

Substitutable subjects from other departments					
	IE courses		**courses from other departments**		
Classification	Subject No.	Subject Name	Subject No.	Subject Name	Remark
Mandatory Major Courses	IE362	Applied Data Structures and Algorithms	CS206	Data Structure	one-way substitution
Elective Courses	IE231	Applied Real Analysis and Probability	FEP321	Analysis and Probability for Finance	Two-way substitution
Elective Courses	IE421	Engineering Economy and Cost Analysis	CC513	Engineering Economy and Cost Analysis	one-way substitution
Elective Courses	IE471	Introduction to Financial Engineering	FEP311	Introduction to Financial Engineering	Two-way substitution
Elective Courses	IE565	Information Security Policy and Management	IS532	Information Security policy and management	Two-way substitution
Elective Courses	IE566	Human-Computer Interaction: Theory and Design	KSE531	Human-Computer Interaction: Theory and Design	Two-way substitution
Elective Courses	IE577	Fundamentals of Systems Engineering	AE500	Synthetic Design of Aerospace Systems	one-way substitution
Elective Courses	IE636	Intelligent Systems & Soft Computing	KSE622	Soft-computing in Intelligent System Design	Two-way substitution
Elective Courses	IE646	Data Mining	KSE525	Data Mining and Knowledge Discovery	Two-way substitution
Elective Courses	IE761	Cognitive Engineering	KSE641	Cognitive Engineering	Two-way substitution