Curriculum

❒ Undergraduate Course

Classification	Subject No.	Subject Name	Lecture:Lab.:Credit (Homework)	Semester	Remark
Mandatory Major Courses	IE 241	Engineering Statistics I	3:0:3(6)	Spring	
	IE 251	Manufacturing Process Innovation	3:1:3(4)	Spring/Fall	
	IE 261	Information Technology for Industrial Engineering	3:1:3(6)	Fall	
	IE 321	Production Management I	3:0:3(6)	Fall	
	IE 331	Operations Research I	3:1:3(3)	Spring	
	IE 332	Operations Research II	3:1:3(4)	Fall	
	IE 341	Engineering Statistics II	3:0:3(6)	Fall	
	IE 362	IT Programming and Practice	2:3:3(6)	Spring	
Elective Major Courses	IE 310	Work Study	2:3:3(5)	Fall	
	IE 312	Introduction to Human Engineering	2:3:3(2)	Spring	
	IE 322	Production Management II	3:0:3(6)	Spring	
	IE 342	Regression Analysis and Experimental Designs	3:0:3(4)	Fall	
	IE 352	Introduction to CAD / CAM	3:1:3(6)	Fall	
	IE 353	Product Development and Product Information Management	3:1:3(6)	Spring	
	IE 361	Human-Computer Interaction Design	3:1:3(4)	Spring	
	IE 363	Computer Simulation	3:1:3(5)	Spring	
	IE 412	Safety Engineering	3:0:3(2)		
	IE 413	Engineering Aestho-physiology	3:0:3(3)	Fall	
	IE 414	Cognitive Science and Systems	3:1:3(4)	Fall	
	IE 421	Engineering Economy and Cost Analysis	3:0:3(6)	Spring	*CC513
	IE 422	Management Organization Theory	3:0:3(6)		
	IE 423	Logistics Management	3:1:3(5)	Fall	
	IE 431	Introduction to Optimization Theory	3:0:3(3)	Spring	
	IE 432	Decision Analysis	3:0:3(4)	Fall	
	IE 433	Operations Research Software Studies	3:0:3(3)	Fall	
	IE 434	Introduction to Telecommunication Service and Systems	3:1:3(3)	Spring	
	IE 435	Telecommunication Management and Policy	3:0:3(3)	Fall	
	IE 436	Applications of Operations Research	3:1:3(4)	Fall	
	IE 441	Quality Control	3:1:3(5)	Fall	
	IE 442	Case Studies in Statistical Data Analysis	3:1:3(4)	Fall	
	IE 451	Manufacturing Information System and e-Business	3:1:3(6)	Spring	
	IE 452	Engineering System Design	2:3:3(5)	Fall	
	IE 461	Data & Information Systems	3:1:3(6)	Spring	
	IE 462	Internet Business Computing	3:2:3(4)	Spring	
	IE 481	Special Topics in Industrial Engineering I	3:0:3		
Research	IE 490	B.S. Thesis	0:6:3		
	IE 495	Individual Study	0:6:1		
	IE 496	Seminar in B.S.	1:0:1	Spring	

* these represent substitutive subject.

❒ Graduate Course

Classification	Subject No.	Subject Name	Lecture:Lab.:Credit (Homework)	Semester	Remark
Mandatory General Courses (select one)	CC 010	Special Lecture on Leadership	1:0:0	Spring/Fall	
	CC 500	Science Writing in English	3:0:3		
	CC 510	Introduction to Computer Application	2:3:3		
	CC 511	Probability and Statistics	2:3:3		*IE641
	CC 512	Introduction to Materials Science and Engineering	3:0:3		
	CC 513	Engineering Economy and Cost Analysis	3:0:3(6)	Spring	*IE522
	CC 522	Introduction to Instruments	2:3:3		
	CC 530	Entrepreneurship and Business Strategies	3:0:3	Spring/Fall	
Elective Major Courses (Select 3 for MS degree)	IE 511	Human Centered Systems Design	2:3:3(2)	Spring	**
	IE 523	Production System Design	3:1:3(5)	Spring	**
	IE 531	Linear Programming	3:1:3(6)	Spring	**
	IE 542	Regression Analysis: Theory and Practice	3:0:3(6)	Spring	**
	IE 551	Manufacturing System and Supply Chain	3:1:3(6)	Spring	**
	IE 562	Information System Design	3:1:3(6)	Spring	**
Elective Major Courses	IE 522	Advanced Topics in Engineering Economy & Cost Analysis	3:0:3(6)	Spring	**
	IE 524	Optimal Location of Facilities	2:3:3(5)	Fall	**
	IE 525	Project Management	3:1:3(4)	Spring	**
	IE 526	IT Organization and Leadership	3:0:3(4)	Fall	**
	IE 532	Simulation and System Modeling	3:1:3(6)	Fall	**
	IE 533	Systems Engineering	3:0:3(4)	Spring	**
	IE 535	Network Theory and Applications	3:1:3(4)	Spring	**
	IE 536	Scheduling Theory and Applications	3:0:3(4)	Fall	**
	IE 537	Business Telecommunication Systems	3:1:3(3)	Fall	**
	IE 538	Genetic Algorithms and Applications	3:1:3(3)	Spring	**
	IE 552	CAD/CAM and Geometric Modeling	3:1:3(6)	Spring	**
	IE 553	Concurrent Engineering and Product Data Management	3:1:3(6)	Spring	**
	IE 561	Management Information Systems Analysis	3:1:3(6)	Fall	**
	IE 563	Business Process Modeling and System Integration	3:3:4(5)	Fall	**
	IE 564	Internet Application Programming	3:1:3(4)	Fall	**
	IE 570	Military Operations Research Theory and Applications	3:1:3(4)	Spring	**
	IE 571	War Game Modeling	3:1:3(4)	Fall	**
	IE 572	Analysis of Weapon Systems	3:1:3(4)	Fall	**
	IE 601	Factory Training	0:6:2	Summer	
	IE 611	Work Physiology	3:0:3(3)		
	IE 624	Analysis of Inventory Management Systems	3:1:3(6)		
	IE 625	Design and Operation of Flexible Manufacturing System	3:0:3(6)	Fall	
	IE 630	Nonlinear Programming	3:1:3(6)	Fall	
	IE 631	Integer Programming	3:1:3(6)	Fall	
	IE 632	Stochastic Processes	3:1:3(5)	Fall	
	IE 633	Queueing Theory	3:0:3(6)	Spring	
	IE 634	Reliability and Maintenance Engineering	3:0:3(3)	Spring	
	IE 635	Combinatorial Optimization	3:0:3(4)	Fall	
	IE 636	Neural Network Theory and Applications	3:1:3(3)		
	IE 637	Telecommunication Systems Optimization	3:1:3(3)	Fall	
	IE 638	Wireless and Cellular Communication Systems	3:1:3(3)	Spring	
	IE 639	Supply Chain Optimization	3:0:3(4)	Fall	
	IE 641	Mathematical Statistics	3:0:3(8)		
	IE 642	Forecasting and Time Series Analysis	3:1:3(6)		
	IE 643	Design and Analysis of Experiments	3:1:3(4)	Fall	

Classification	Subject No.	Subject Name	Lecture:Lab.:Credit (Homework)	Semester	Remark
Elective Major Courses	IE 644	Life Testing and Survival Analysis	3:0:3(4)	Spring	
	IE 645	Quality Engineering	3:0:3(6)	Spring	
	IE 646	Data Mining	3:1:3(4)	Spring	
	IE 651	Manufacturing Information Model	3:1:3(6)	Fall	
	IE 652	Industrial Software Design	3:1:3(6)	Fall	
	IE 653	Digital Manufacturing	3:1:3(6)	Fall	
	IE 661	Introduction to AI / ES Technology	3:0:3(6)	Fall	
	IE 711	Human Performance Measurement & Analysis	2:3:3(2)		
	IE 722	Material Storage & Handling Systems	3:0:3(5)	Fall	
	IE 723	Supply Chain Management	3:1:3(5)	Spring	
	IE 734	Dynamic Systems Analysis	3:1:3(5)	Spring	
	IE 744	Statistical Decision Theory	3:0:3(6)		
	IE 751	Modeling of Automated Manufacturing Systems	3:1:3(6)		
	IE 753	Factory Communication	3:1:3(5)		
	IE 761	Cognitive Systems Engineering	3:0:3(6)	Fall	
	IE 762	Industrial Information Network	3:1:3(4)	Spring	
	IE 801	Special Topics in Industrial Engineering II	3:0:3		
Research	IE 960	Thesis (Master's Course)			
	IE 980	Thesis (Doctoral Course)			
	IE 965	Individual Study (MS)	1:0:1		
	IE 985	Individual Study (Ph.D.)	1:0:1		
	IE 966	Seminar in MS	1:0:1		
	IE 986	Seminar in Ph.D.	1:0:1		

* represents a substitutive subject.

** 500-level courses are mutually recognizable between bachelor's and master's programs.