

Industrial Engineering Course Schedule – Autumn 2008

edited 9/23/08

Course #	Course Title	Instructor	Cr.	Days	Time	Room	SLN
IND E 101	Intro. Indust. Engr.	Heim	1	M	3:30-4:20	MGH 241	14574
<i>Examines the basic concepts and methods of industrial engineering through team-based, hands-on activities. Explores the profession of industrial engineering. Discusses resources available to Industrial Engineering students at the University of Washington.</i>							
IND E 250A	Fund. Engr. Economics	Miyata	4	MTWF	8:30-9:20	MEB 103	14575
<i>Basics of industrial cost analysis and accounting. Application of interest computations to engineering decision making. Analysis of engineering alternatives based on use of interest computations, valuations, depreciation, and cost estimates in process and product manufacturing.</i>							
IND E 315A	Probability/Stats. for Engr.	Mastrangelo	3	MW	1:30-2:50	HCK 132	14576
<i>Application of probability theory and statistics to engineering problems, distribution theory and discussion of particular distributions of interest in engineering, statistical estimation and data analysis. Prerequisite: either MATH 136 or MATH 307.</i>							
IND E 337A	Intro to Manufact. Systems	Storch	4	TTh	2:30-5:20	MEB 103	14577
<i>Description of manufacturing systems. Includes discussion of current trends in manufacturing. Introduces process flow analysis, manufacturing organizations including job-shop, assembly lines, and group technology, manufacturing inventory philosophies (just-in-time, MRP, OPT), work environment, and work simplification.</i>							
IND E 410	Linear Programming	Ghate	4	MW F	9:30-10:50 9:30-11:20	JHN 111 MGH 044/JHN 075	14578
<i>Modeling and optimization of linear network problems. Topics include: optimization of linear systems, mathematical model design, simplex method, primal-dual algorithms, parametric programming, goal programming, network problems and algorithms, and PERT/CPM. Prerequisite: either MATH 136 or MATH 308; CSE 142</i>							
IND E 430	Manufacturing Sched. & Inven.	Beamon	4	TTh	10:30-12:20	MGH 251	14579
<i>Manufacturing scheduling and inventory control for different work organizations. Coverage of workforce scheduling, job- and flow-shop scheduling and order release, production line balancing, MRP II, Lean Production, and data management. Particular attention to computer-based aspects of management and scheduling for manufacturing and service industries. Prerequisites: IND E 337 & 410, both of which may be taken concurrently.</i>							
IND E 455A	User Interface Design	Furness	4	MWF F	11:30-12:20 2:30-4:20	THO 134 MGH 030	14580
<i>Design oriented to cover fundamentals of user interface design; models on human computer interaction, software psychology, input devices, usability, cognitive and perceptual aspects of human-computer interaction, advanced interface, and research methodologies are discussed. Offered jointly with TC 455A.</i>							
IND E 470	Systems Engineering	Faculty	4	MW	3:30-5:20	LOW 206	14581
<i>Concepts of system approach, system hierarchies, functional analysis, requirements, trade studies, and other concepts used to define and integrate complex engineering systems. Introduction to risk analysis and reliability, failure modes and effects analysis, writing specifications, and lean manufacturing. Offered: jointly with A A 470.</i>							
IND E 499A	Special Projects in IE	Faculty	2-5	by arrangement			14583
IND E 499H	Honors – Special Projects	Faculty	2-5	by arrangement			14584

IND E 518	Seminar in Manuf & Mgt	Faculty	1	Th	3:30-4:20	LOW 202	14585
<i>Current topics and advances made in manufacturing and management. Topics presented by invited speakers from academia and industry. Emphasis on the multidisciplinary nature of manufacturing and management Offered: jointly with M E 518.</i>							
IND E 521	Quality Control in Mfg.	Mastrangelo	3	MW	11:30-12:50	LOW 202	14586
<i>Design of quality control systems in manufacturing. Use of advanced statistical process controls, sampling inspection techniques, process capability, and other statistical tools. Also includes vendor sourcing and control tools, methods for establishing specifications and tolerances, quality function deployment, and other quality control techniques. Prerequisite: graduate standing. Also offered through EDGE.</i>							
IND E 537A	Intro to Mfg. Systems	Storch	3	TTh	2:30-5:20	MEB 103	14588
<i>Graduate-level equivalent to IND E 337.</i>							
IND E 543	Virtual Interface Technology	Furness	1-3	MW	1:30-2:50	MUS 213	14589
<i>Explores advanced concepts and technologies for interfacing humans to complex machines, with focus on virtual interfaces. Interface design principles reviewed from psychological and technological perspectives. Hardware, software, and mindware aspects of virtual interfaces investigated. Applications postulated and designed.</i>							
IND E 564	Health & Safety Hazards in Ind.	Camp/Seixas	2	F	10:30-12:20	HST T663 HST T360	14590
<i>Develops skills in occupational health and safety hazard recognition in a variety of important northwest industries. Focuses on process understanding and hazard recognition skills during walk-through inspections of several local facilities, stressing a multidisciplinary approach. Offered: jointly with ENV H 564.</i>							
IND E 570	Supply Chain Systems	Beamon	3	TTh	2:30-3:50	MEB 242	14591
<i>Develops concepts related to the design, evaluation, and performance of supply chain systems through an exploration of contemporary practice and research, focusing on current issues, analytical frameworks, and case studies. Prerequisite: IND E 315 or equivalent.</i>							
IND E 591A	Graduate Seminar	Furness	1	T	1:30-2:20	MEB 250	14592
<i>Credit/no credit only. Topics of current interest in industrial engineering. Prerequisite: graduate standing in Industrial Engineering or permission of instructor.</i>							

IND E 595	GLBL Int Sys Engr	Mastrangelo	9	alternating F/SAT	F in EEB 025 S in EEB 003	20315
<i>Includes systems engineering, project management, finance, economics, and seminars. Concludes with a team-based design project involving a large scale system. The project enables students to apply their modeling skills to a real-world problem and present their results to a panel comprised of practitioners, academics, and clients. Offered: jointly with A A 595.</i>						
IND E 599A	Special Topics in IE	Faculty	1-5	by arrangement		14593
IND E 599E	“Applied Engineering”	Gibbons	1	M 9:30-10:20	MGH 231	14596
IND E 600A	Independent Study/Research	Faculty	1-10	by arrangement		14597
IND E 700A	Master’s Thesis	Faculty	1-10	by arrangement		14598
IND E 800A	Doctoral Dissertation	Faculty	1-10	by arrangement		14599