

INDUSTRIAL AND SYSTEMS ENGINEERING MAJOR, B.S.

Course	Title	Credits
General Requirements		
General Education (http://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/)		26-34
Required Courses		
MATH 2640	Calculus and Analytic Geometry I	4
MATH 2740	Calculus and Analytic Geometry II	4
MATH 4030	Statistical Methods with Applications	3
MATH 4050	Applied Regression Analysis	3
or STAT 3130	Introduction to Applied Regression Analysis	
STAT 3230	Experimental Design and Analysis	3
CHEMISTRY 1450	Chemistry for Engineers	5
BIOLOGY 2340	Essentials of Anatomy and Physiology	4
PHYSICS 2240	General Physics I	4
General Engineering/Mechanics Core		
GENENG 1030	Introduction to Engineering Projects	1
GENENG 1320	Engineering Computer Graphics	2-3
or GENENG 2030	Engineering Modeling and Design	
GENENG 2130	Engineering Mechanics-Statics	3
GENENG 2340	Mechanics of Materials	4
GENENG 2820	Engineering Economy	2
MECHENG 3040	Engineering Materials	3
Engineering/Computer/Data Science Electives		
Select 2 of the following:		6-7
GENENG 2230	Engineering Mechanics-Dynamics	
MECHENG 2630	Thermodynamics	
GENENG 2930	Applications of Electrical Engineering ¹	
or ELECTENG 2210	Circuit Modeling II	
PHYSICS 2340	General Physics II	
COMPUTER 1430	Introduction to Computer Programming	
COMPUTER 2430	Object-Oriented Programming	
STAT 2030	Data Visualization and Analysis	
DATASCI 2010	Data Science I	
ENERGY 2340	Fundamentals of Energy Sources	
MATH 2840	Calculus and Analytic Geometry III	
Industrial and Systems Engineering Core		
INDSTENG 2130	Fundamentals of Industrial and Systems Engineering	3
INDSTENG 3130	Industrial Engineering Computer Applications	3
INDSTENG 3530	Operations Research I	3
INDSTENG 3630	Work Measurement and System Design	3
INDSTENG 3730	Engineering Management	3
INDSTENG 3830	Engineering Design of Systems	3
INDSTENG 4030	Production and Operations Analysis	3
INDSTENG 4130	System Simulation and Analysis	3
INDSTENG 4430	Quality Engineering	3
INDSTENG 4440	Human Factors Engineering	3
INDSTENG 4830	Engineering Continuous Improvement	3
INDSTENG 4930	Industrial Systems Design	3
Industrial and Systems Engineering Technical Electives		
Each student must complete technical electives with a minimum of 9 credits in consultation with advisor. ^{2,3,4}		9
Engineering and Computer Science Technical Electives		

INDSTENG 3780	System Safety Engineering
INDSTENG 4230	Facilities Design
INDSTENG 4530	Operations Research II
INDSTENG 4540	Human Performance and System Design
INDSTENG 4630	Manufacturing Systems Design
INDSTENG 4980	Current Topics in Engineering
MECHENG 3230	Manufacturing Processes
MECHENG 4430	Advanced Materials
MECHENG 4440	Failure of Materials
MECHENG 4450	Composite Materials
BME 3030	Introduction to Biomedical Engineering
BME 3230	Introduction to Medical Instrumentation
BME 4130	Biomechanics
COMPUTER 2630	Data Structures
COMPUTER 3630	Database Design and Implementation
Non-Engineering and Non-Computer Science Technical Electives	
BUSADMIN 3130	Business Law
BUSADMIN 3340	Management, Gender & Race
BUSADMIN 4140	International Management
PSYCHLGY 3000	Cognitive Psychology
PSYCHLGY 3430	Physiological Psychology
STAT 4130	Applied Categorical Data Analysis
STAT 4230	Applied Nonparametric Statistics
DATASCI 2510	Data Science II - Intermediate Data Science
INDUSTDY 3130	General Industry OSHA 30 Hour
INDUSTDY 3590	Industrial Hygiene and PPE
Professional Requirement	
Select one course from the following:	
INDSTENG 3950	Industrial Engineering Cooperative Education
INDSTENG 3970	Industrial Engineering Internship
INDSTENG 4990	Independent Study ⁵
INDUSTDY 1010	Principles of Safety and Risk Management
BUSADMIN 2330	Leadership and Management
ENTRP 2020	Startup Launchpad

1-3

Total Credits**123-135**¹ ELECTENG 1210 must be completed prior to enrolling in ELECTENG 2210.² At least six technical elective credits must be numbered IE XXXX.³ At least six technical elective credits must be numbered 3000 or higher.⁴ BUSADMIN 4xxx and INDSTDY 4xxx courses may be used as technical electives upon approval of student's advisor or the IE Program Coordinator.⁵ INDSTENG 4990 must be taken for 3 credits to fulfill the Professional Requirement.