

INDUSTRIAL AND SYSTEMS ENGINEERING MAJOR, B.S.

| Course | Title | Credits |
|---|---|---------|
| General Requirements | | |
| General Education (https://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 | | |

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| 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 |
| AETM 3130 | General Industry OSHA 30 Hour |
| AETM 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 |
| AETM 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 AETM 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.