



## Industrial Engineering MS Course Requirement Worksheet

(Include in Plan of Study)

**Thesis:** Submit MS Course requirement worksheet, 1 paragraph summary of proposed thesis research area, and a listing of proposed Thesis defense committee members.

**MS Report:** Submit MS Course requirement worksheet

**Coursework:** Submit MS Course requirement worksheet

<b>Name</b>	
<b>Date</b>	
<b>Prior Degree</b>	
<b>Student ID</b>	

Required Units	Semester(s)	Grades
SIE 530 (3) – Engineering Statistics	Fall	
SIE 540 (3) – Survey of Optimization Methods <b>OR</b> SIE 545 (3) – Fundamentals of Optimization	Spring Fall	
One course from SIE 56X or 58X series		
<i>Elective Coursework (Follow One Option)</i>		
Thesis <ul style="list-style-type: none"> <li>- SIE Approved Electives (15 units – see page 2)</li> <li>- SIE 910 – Master’s Thesis (6 units)</li> </ul>		
Report/Project <ul style="list-style-type: none"> <li>- SIE Approved Electives (15 units – see page 2)</li> <li>- SIE 909 – Master’s Report (3 units)</li> </ul>		
Coursework <ul style="list-style-type: none"> <li>- SIE Approved Electives (24 units – see page 2)</li> </ul>		

**TOTAL = 30 minimum** (33 for Coursework Option)

**TOTAL** (overall, not current) =



THE UNIVERSITY OF ARIZONA  
COLLEGE OF ENGINEERING

## Systems & Industrial Engineering

### Approved SIE Graduate Electives ([SIE website](#))

- SIE 506: Quality Engineering (3.00 credits)
- SIE 508: Reliability Engineering (3.00 credits)
- SIE 511: Human-Machine Interaction (3.00 credits)
- SIE 512: Human Factors Engineering Research Methods (3.00 credits)
- SIE 513: Ergonomics for Inclusive Design (3.00 credits)
- SIE 514: Law for Engineers and Scientists (3.00 credits)
- SIE 515: Technical Sales and Marketing (3.00 credits)
- SIE 520: Stochastic Modeling I (3.00 credits)
- SIE 530 Engineering Statistics (3.00)
- SIE 522: Engineering Decision Making under Uncertainty (3.00 credits)
- SIE 525: Queuing Theory (3.00 credits)
- SIE 530: Engineering Statistics (3.00 credits)
- SIE 531: Simulation Modeling and Analysis (3.00 credits)
- SIE 532: Sports Analytics (3.00 credits)
- SIE 533: Fundamentals of Data Science for Engineers (3.00 credits)
- SIE 536: Experiment Design and Regression (3.00 credits)
- SIE 540: Survey of Optimization Methods (3.00 credits)
- SIE 544: Linear Programming (3.00 credits)
- SIE 545: Fundamentals of Optimization (3.00 credits)
- SIE 546: Algorithms, Graphs, and Networks (3.00 credits)
- SIE 552: Space Systems Engineering (3.00 credits)
- SIE 554A: The Systems Engineering Process (3.00 credits)
- SIE 555: Sensor Systems Engineering (3.00 credits)
- SIE 557: Project Management (3.00 credits)
- SIE 556: Fundamental of Guidance for Aerospace Systems (3.00 credits)
- SIE 558: Model-Based Systems Engineering (3.00 credits)
- SIE 561: Traffic Modeling and Simulation (3.00 credits)
- SIE 562: Advanced Production Control (3.00 credits)
- SIE 563: Integrated Logistics and Distribution Systems (3.00 credits)
- SIE 564: Cost Estimation (3.00 credits)
- SIE 565: Supply Chain Management (3.00 credits)
- SIE 566: Life Cycle Analysis for Sustainable Design (3.00 credits)
- SIE 567: Financial Modeling for Innovation (3.00 credits)
- SIE 570: Intelligent Control Systems & Applications (3.00 credits)
- SIE 571: Systems Cyber Security (3.00 credits)
- SIE 572: Information Security and Research (INSuRE) (3.00 credits)
- SIE 573: Engineering of Trustworthy Systems (3.00 credits)
- SIE 577: Introduction to Biomedical Informatics (3.00 credits)
- SIE 578: Artificial Intelligence for Health and Medicine (3.00 credits)
- SIE 583: Computer Integrated Manufacturing Systems (CIM) (3.00 credits)
- SIE 596: Special Topics in SIE (3.00 credits)
- SIE 606: Advanced Quality Engineering (3.00 credits)
- SIE 608: Advanced Reliability Engineering (3.00 credits)
- SIE 631: Distributed Multi-Paradigm Simulation Systems (3.00 credits)
- SIE 640: Integer and Combinatorial Optimization (3.00 credits)
- SIE 645: Nonlinear Optimization (3.00 credits)
- SIE 649: Stochastic Optimization (3.00 credits)
- SIE 654: Advanced Concepts in Systems Engineering (3.00 credits)
- SIE 678: Transportation Systems (3.00 credits)

\*3.0 GPA Required. A grade of 'C' or higher is required for a course to be used to satisfy the degree requirements (A or B for transfer credits).