

# M.S. in Industrial Engineering

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## Program Director

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## What is Industrial Engineering?

Industrial engineering focuses on reducing wasted resources such as time, money, materials and energy by both designing and optimizing complex processes, systems and organizations. Industrial engineers gain a wide range of skills so they can work in both technical positions and management. They minimize costs and maximize efficiency for the benefit of the companies they work for and the customer.

Master of Science Degree in Industrial Engineering

The Master of Science in Industrial Engineering program is a blend of basic engineering knowledge, management techniques, people management skills, and computer technology integrated with applied mathematics and statistics.

Industrial Engineering students will specialize in learning in lean production, six sigma, supply-chain management, logistics optimization, decision analytics, additive and advanced manufacturing, and robotics.

The 30-hour master's degree program in Industrial Engineering is open to students with an undergraduate degree in engineering, the physical sciences or mathematics.

The program may be completed in 18 to 24 months. Students with degrees in other areas may be required to take prerequisite course work.

The courses are taught by highly knowledgeable full-time and adjunct faculty with vast industry experience.

Our graduates are employed by a variety of companies, including the following: Boeing, Koch, USAA, Southwest Research Institute, Valero, Zachry, UPS, and Labatt Food.

## Project Option

Code	Title	Semester Hours
<b>Required</b>		
EG 6303	Lean Production	3
EG 7306	Total Quality Systems	3
EG 6341	Supply Chain Management	3
EG 6331	Computer Simulation	3
EG 8396	Capstone Project	3
<b>Required Engineering Finance</b>		
Select one of the following:		3
EG 6305	Economic Analysis for Managerial Decisions	
EG 7350		
EG 7354		
<b>Required Operations Research</b>		
Select one of the following:		3
EG 6332	Operations Research I	
EG 6333	Operations Research II	
EG 6310	Nonlinear Optimization	
EG 6308	Random Variables and Stochastic Processes	
<b>Required Manufacturing</b>		
Select one of the following:		3
EG 6340	Manufacturing Engineering	
EG 6327	Computer Aided Manufacturing (CAM) & Robotics	
<b>Required IE Elective Work</b>		
Select two of the following:		6
EG 6301	Statistical Data Analysis	
EG 6304	Reliability & Maintainability	

EG 6307	Sequencing and Scheduling
EG 6308	Random Variables and Stochastic Processes
EG 6309	Human Factors/Ergonomics
EG 6310	Nonlinear Optimization
EG 6317	
EG 6327	Computer Aided Manufacturing (CAM) & Robotics
EG 6332	Operations Research I
EG 6333	Operations Research II
EG 6338	Special Topics
EG 6340	Manufacturing Engineering
EG 7303	Safety Engineering & Loss Assessment
EG 7307	Plant Layout and Facilities Design
EG 7155	Internship
EG 7255	Internship
EG 7355	Internship
Other course work with Graduate Program Director approval.	

Total Semester Hours

30

## Thesis Option

Code	Title	Semester Hours
<b>Required</b>		
EG 6341	Supply Chain Management	3
EG 6303	Lean Production	3
EG 6331	Computer Simulation	3
EG 7306	Total Quality Systems	3
EG 8390	Thesis I	3
EG 8391	Thesis II	3
<b>Required</b>		
Select four of the following: <sup>1</sup>		12
EG 6301	Statistical Data Analysis	
EG 6304	Reliability & Maintainability	
EG 6305	Economic Analysis for Managerial Decisions	
EG 7354		
EG 7350		
EG 6307	Sequencing and Scheduling	
EG 6308	Random Variables and Stochastic Processes	
EG 6309	Human Factors/Ergonomics	
EG 6310	Nonlinear Optimization	
EG 6317		
EG 6327	Computer Aided Manufacturing (CAM) & Robotics	
EG 6332	Operations Research I	
EG 6333	Operations Research II	
EG 6338	Special Topics	
EG 6340	Manufacturing Engineering	
EG 7303	Safety Engineering & Loss Assessment	
EG 7307	Plant Layout and Facilities Design	
EG 7155	Internship	
EG 7255	Internship	
EG 7355	Internship	

Other course work with Graduate Program Director approval.

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Total Semester Hours

30

<sup>1</sup> With Graduate Program Director approval.