

# Engineering Management (MR): Advanced Manufacturing Concentration

## Degree Requirements

### Core Requirements

Code	Title	Hours	Counts towards
<b>Required Courses</b>			<b>15</b>
ISE/OR 501	Introduction to Operations Research		
Select one of the following courses:			3
ST 513	Statistics for Management and Social Sciences I		
ST 515	Experimental Statistics for Engineers I		
ST 516	Experimental Statistics For Engineers II		
ST 517	Applied Statistical Methods I		
ST 518	Applied Statistical Methods II		
Select one of the following courses:			3
EGR 501	Engineering Leadership and Strategic Change		
COM 530	Interpersonal Communication in Science and Technology Organizations		
COM 527	Seminar in Organizational Conflict Management		
COM 556	Seminar In Organizational Communication		
Select one of the following courses:			3
BUS 554	Project Management		
CE 561	Construction Project Management		

EGR 590 Special Topics in Engineering (Engineering Project Management)

Select one of the following courses: 3

ISE 510 Applied Engineering Economy

EGR 505 Managerial Finance for Engineers

CE 567 Risk and Financial Management in Construction

### Concentration Requirements

Code	Title	Hours	Counts towards
<b>Required Courses</b>			<b>15</b>
Select four of the following courses:			12
ISE 725	Foundations of Smart Manufacturing		
ISE 555	Digital Manufacturing		
ISE 515	Manufacturing Process Engineering		
ISE 714	Product Manufacturing Engineering for the Medical Device Industry		
ISE 716	Automated Systems Engineering		
ISE 718	Micro/Nano-Scale Fabrication and Manufacturing		
MAE 517	Advanced Precision Manufacturing for Products, Systems and Processes		
MAE 531	Engineering Design Optimization		
MAE 545	Metrology For Precision Manufacturing		
MSE 500	Modern Concepts in Materials Science		
MSE 539	Advanced Materials		

MSE 540	Processing of Metallic Materials	
MSE 556	Composite Materials	
MSE 580	Materials Forensics and Degradation	
MSE 705	Mechanical Behavior Of Engineering Materials	
MSE 576	Technology Entrepreneurship and Commercialization I	
MSE 577	Technology Entrepreneurship and Commercialization II	
ISE 748	Quality Engineering	
Take one of the following courses:		3
MAE 526	Fundamentals of Product Design	
EM 675	Engineering Management Masters Project	
<b>Total Hours</b>		<b>30</b>

## Faculty

### Full Professors

Julie Ivy

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### Practice/Research/Teaching Professors

Brandon M. McConnell