MASTER OF SCIENCE IN ADVANCED MANUFACTURING

Master of Science in Advanced Manufacturing (Coursework Only Option)

Requirement	Credits
Minimum Credits Required	32
Required Core Course Credit	12
Minimum AM Elective Credit	9
Maximum 400-Level Credit	9
Maximum 700-Level Credit	6

Code	Title	Credit Hours
Required Courses		**(12)**
MMAE 546	Advanced Manufacturing Engineering	3
MMAE 557	Computer-Integrated Manufacturing Systems	3
MMAE 560	Statistical Quality and Process Control	3
MMAE 588	Additive Manufacturing	3
Elective AM Courses		**(9)**
Select at least 9 credits hours from the following list:		9
MMAE 445	Computer-Aided Design	3
MMAE 450	Computational Mechanics II	3
MMAE 485	Manufacturing Processes	3
MMAE 500	Data Driven Modeling	3
MMAE 501	Engineering Analysis I	3
MMAE 532	Advanced Finite Element Methods	3
MMAE 545	Advanced CAD/CAM	3
MMAE 547	Computer-Integrated Manufacturing Technologies	3
MMAE 589	Applications in Reliability Engineering I	3
MMAE 590	Applications in Reliability Engineering II	3
MMAE 594	Project for Master of Engineering Students	1-6
MMAE 597	Special Topics	1-6
INTM 538	Advanced Machining for Manufacturing 1	3
INTM 539	Advanced Machining for Manufacturing 2	3
Remaining credit hours can be completed by taking additional AM Elective courses or any of the following related courses.		**(11)**
Select at least 11 credit hours from the following list or AM Elective courses:		11
MMAE 533	Fatigue and Fracture Mechanics	3
MMAE 563	Advanced Mechanical Metallurgy	3
MMAE 565	Materials Laboratory	3
MMAE 570	Computational Methods in Materials Science and Engineering	3
ECE 505	Applied Optimization for Engineers	3
CS 480	Introduction to Artificial Intelligence	3
CS 557	Cyber-Physical Systems Security and Design	3
CS 584	Machine Learning	3
INTM 437	Smart Factory Automation	3

Master of Science in Advanced Manufacturing (Thesis Option)

Requirement	Credits
Minimum Credits Required	32
Required Core Course Credit	12
Minimum AM Elective Credit	9
Maximum 400-Level Credit	9
Maximum 700-Level Credit	6

Code	Title	Credit Hours
Required Courses		**(12)**
MMAE 546	Advanced Manufacturing Engineering	3
MMAE 557	Computer-Integrated Manufacturing Systems	3
MMAE 560	Statistical Quality and Process Control	3
MMAE 588	Additive Manufacturing	3
Elective AM Courses		**(9)**
Select at least 9 credit hours from the following list:		9
MMAE 445	Computer-Aided Design	3
MMAE 450	Computational Mechanics II	3
MMAE 451	Finite Element Methods in Engineering	3
MMAE 485	Manufacturing Processes	3
MMAE 500	Data Driven Modeling	3
MMAE 501	Engineering Analysis I	3
MMAE 532	Advanced Finite Element Methods	3
MMAE 545	Advanced CAD/CAM	3
MMAE 547	Computer-Integrated Manufacturing Technologies	3
MMAE 589	Applications in Reliability Engineering I	3
MMAE 590	Applications in Reliability Engineering II	3
INTM 538	Advanced Machining for Manufacturing 1	3
INTM 539	Advanced Machining for Manufacturing 2	3
Remaining credit hours can be completed by taking additional AM Elective courses or any of the following related courses.		**(3-6)**
Select 3-6 credit hours from the following list or AM Elective courses:		3-6
MMAE 533	Fatigue and Fracture Mechanics	3
MMAE 563	Advanced Mechanical Metallurgy	3
MMAE 565	Materials Laboratory	3
MMAE 570	Computational Methods in Materials Science and Engineering	3
ECE 505	Applied Optimization for Engineers	3
CS 480	Introduction to Artificial Intelligence	3
CS 557	Cyber-Physical Systems Security and Design	3
CS 584	Machine Learning	3
INTM 437	Smart Factory Automation	3
Thesis Research		**(6-8)**
Select at least 6-8 credit hours of Research and Thesis coursework.		6-8
MMAE 591	Research and Thesis M.S.	6-8