

ADVANCED MANUFACTURING GRADUATE OPTION

This option is available within the Industrial Engineering (<https://catalog.oregonstate.edu/college-departments/engineering/school-mechanical-industrial-manufacturing-engineering/industrial-engineering-meng-ms-phd/>), Materials Science (<https://catalog.oregonstate.edu/college-departments/engineering/school-nuclear-science-engineering/materials-science-meng-ms-phd/>) and Mechanical Engineering (<https://catalog.oregonstate.edu/college-departments/engineering/school-mechanical-industrial-manufacturing-engineering/mechanical-engineering-meng-ms-phd/>) majors at the following location:

- Corvallis

The Advanced Manufacturing graduate option recognizes the highly interdisciplinary nature of manufacturing, which spans the fields of systems engineering, machine design and control, engineering mechanics, fluid dynamics, heat and mass transfer, thermodynamics, and materials science and involves both experimental and computational efforts. Graduate students pursuing degrees in Industrial Engineering, Mechanical Engineering, or Materials Science may declare an Advanced Manufacturing option.

Option Code: 3191

Options follow the learning outcomes of the major. For this option, refer to the learning outcomes of the Materials Science (<https://catalog.oregonstate.edu/college-departments/engineering/school-nuclear-science-engineering/materials-science-meng-ms-phd/#learningoutcomestext>) major.

Code	Title	Credits
Required		
MFGE 507	SEMINAR (Advanced Manufacturing)	1
<i>Materials Science</i>		
Select at least one course from the following:		4
MATS 555	EXPERIMENTAL TECHNIQUES IN MATERIAL SCIENCE	
MATS 570	STRUCTURE-PROPERTY RELATIONS IN MATERIALS	
MATS 588	COMPUTATIONAL METHODS IN MATERIALS SCIENCE	
ME 580	MATERIALS SELECTION	
<i>Manufacturing Systems</i>		
Select at least one course from the following:		3-4
IE 552	DESIGN OF INDUSTRIAL EXPERIMENTS	
ME 597	PRECISION MOTION GENERATION	
MFGE 535	INDUSTRIAL SUSTAINABILITY ANALYSIS	
MFGE 536	LEAN MANUFACTURING SYSTEMS ENGINEERING	
MFGE 599	SPECIAL TOPICS (Sensor Design for Manufacturing)	
<i>Manufacturing Processes</i>		
Select at least one course from the following:		4
MFGE 538	COMPOSITES MANUFACTURING	
MFGE 551	METAL ADDITIVE MANUFACTURING	
Total Credits		12-13

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