

MANUFACTURING ENGINEERING, BACHELOR OF SCIENCE WITH A CONCENTRATION IN ADVANCED MANUFACTURING (B.S.)

Program Requirements

Summary Checklist for General Education

Code	Title	Hours
Element 1		
A:	Written Communication (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/)	3
B:	Written Communication (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/)	3
C:	Oral Communication (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/)	3
Element 2		
	Quantitative Reasoning (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-2/)	3
Element 3		
A:	Arts (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/)	3
B:	Humanities (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/)	3
Element 4		
	Natural Sciences (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-4/)	6
Element 5		
A:	Historical Science (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/)	3
B:	Social Behavioral Science (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/)	3
Element 6		
	Diversity of Perspectives Experiences (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-6/)	6
Total Hours		36

Students are expected to complete Elements 1 and 2 within their first 60 hours of college credit.

Major

Code	Title	Hours
University Graduation Requirements		
General Education		36
Student Success Seminar		
SCO 100	Student Success Seminar	1
Upper division courses (42 hrs. distributed throughout Major/ Supporting/Gen Ed/Free Electives categories)		
Major Requirements		
Core Courses		
AEM 201	Metallic Material Processes	3
AEM 301	Non-Metallic Material Processes	3
MFE 150	Introduction to Manufacturing & Engineering Design	3
MFE 195	Computer Aided Design	3
MFE 202	Introduction to Quality	3
MFE 330	Materials Testing and Metrology	3
MFE 349	Applied Learning in Manufacturing Engineering	1
MFE 407	Fundamentals of Project Management	3
MFE 498	Senior Capstone Project I	3
MFE 499	Senior Capstone Project II	3
PHY 221	Statics	3
PHY 315	Electrical Circuits	4
MFE 360		3
MFE 375		3
MFE 380		3
CSC 174	Introduction to Programming for Science & Engineering	3
Concentrations		
Students must select one of the following Concentrations:		
Quality and Lean Manufacturing		
Advanced Manufacturing		9
Industrial Health and Safety		
<i>Supporting Course Requirements</i>		<i>16-19</i>
CHE 111	General Chemistry ((Element 4)) ^G	
CHE 111L	General Chemistry Lab I ((Element 4)) ^G	
ECO 230	Fundamentals of Microeconomics ((Element 5B)) ^G	
MAT 234	Calculus I ((Element 2)) ^G	
MAT 244	Calculus II	
MAT 353	Differential Equations	
PHY 201	University Physics I ((Element 4)) ^G	
PHY 202	University Physics II ((Element 4)) ^G	
STA 270	Applied Statistics ((Element 2)) ^G	
STA 340	Applied Regression Analysis	
The addition of a certificate of minor to this program is highly recommended.		
Free Electives		4
Total Hours		120

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Course also satisfies a General Education element. Supporting hours are included within the 36 hr. General Education requirement above.

Concentration

Code	Title	Hours
Concentration Courses		
Choose nine hours from the following:		9
MFE 352	Robotics and Automated Systems	
MFE 382	Advanced Material Processing	
MFE 390	3D Parametric Solid Modeling	
MFE 453	Additive Manufacturing	
Total Hours		9