

Mapping of Required MfgE Courses to Applicable Student Outcomes

Manufacturing Engineering	Student Outcomes for All ABET-Accredited Engineering Programs (a-k)											MfgE Program-Specific Student Outcomes (aa-ee)				
	Ability to apply mathematics, science, and engineering	Ability to design and conduct experiments, as well as to analyze and interpret data	Ability to design a system, component, or process to meet desired needs	Ability to function on multi-disciplinary teams	Ability to identify, formulate, and solve engineering problems	Understanding of professional and ethical responsibility	Ability to communicate effectively	Broad education necessary to understand the impact of engineering solutions in a global and societal context	Recognition of the need for, and an ability to engage in life-long learning	Knowledge of contemporary issues	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	Ability to design/manufacturing processes that result in products that meet specific material and other requirements	Ability to design products and the equipment, tooling, and environment necessary for their manufacture	Ability to create competitive advantage through manufacturing planning, strategy, quality, and control	Ability to analyze, synthesize, and control manufacturing operations using statistical methods	Ability to measure/manufacturing process variables and develop technical intelligence about the process
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(aa)	(bb)	(cc)	(dd)	(ee)
Required MfgE Course	"X" = Course includes learning outcome(s) that directly support the associated ABET and/or program-specific student outcome															
MIME 101 - Introduction to MIME			X	X	X	X	X	X			X					
IE 212 - Computational Methods for IE	X		X		X		X		X							
MFGE 285 - Intro to Ind & Manf. Engr.			X		X	X	X	X								
ME 250 - Intro. Manuf. Process											X					
ENGR 112 - Intro to Engr. Computing					X						X					
ENGR 212 - Dynamics	X				X						X					
ENGR 213 - Strength of Materials	X				X											
ENGR 248 - Engr. Graphics-3-D Model	X							X			X					
ENGR 390 - Engr. Economy	X				X						X					
ENGR 321 - Intro. Materials Science	X				X					X						
MFGE 336 - Production Engr.			X	X	X		X	X		X	X	X	X	X		X
MFGE 337 - Materials & Manuf. Processes	X	X	X		X					X		X		X		X
IE 355 - Statistical Quality Control	X	X									X			X		X
IE 356 - Experimental Design	X	X	X	X	X		X				X					
IE 366 - Work Systems Engr.	X		X		X	X	X	X		X	X		X	X		X
IE 367 - Production Planning & Control			X	X	X		X	X			X					
IE 368 - Facility Design & Ops. Mgt.	X		X		X		X								X	
ME 311 - Intro. Thermal-Fluid Sciences					X											
ME 382 - Intro.to Design	X		X	X	X	X	X	X	X		X					
ME 413 - Computer-Aided Des. & Manuf.			X	X			X				X					
IE 412- Information Systems Engr.			X		X				X		X				X	
IE 415 - Simulation & Decision Support	X	X	X	X	X		X				X				X	
MFGE 436 - Lean Manuf. Processes	X	X			X					X	X		X	X	X	X
IE/ME 497/498 - MIME Capstone Design			X	X		X	X					X				