

## Industrial and Manufacturing Engineering Department

### Tentative Course Offerings (AY 2026 - 2027) (Subject to change) version April 2026

Keys: numbers in each quarter means number of sections to be offered, R = required course, SR: Selective Required, TE= Technical Elective.

Semester Course No. (Equ. Quarter course)	Units	IE (26-28)	MfgE (26-28)	Course Title	Pre-requisite	Fall 2026	Spring 2027
IME 1101 (IME 101)	1	R	R	Introduction to Industrial and Manufacturing Engineering	N/A	4	N/A
IME 1140	1	R	R	Technical Graphics Communication for Design and Manufacturing	N/A	15	N/A
IME 1141 (IME 141)	1	SR	R	Introduction to Metal Casting and Prototyping	N/A	4	11
IME 1142 (IME 142)	1	SR	R	Materials Joining	N/A	4	7
IME 1143 (IME 143)	2	R	R	Introduction to Design and Manufacturing	N/A	15	13
IME 1149	1			Introduction to Manufacturing Processes: Metal Casting and Joining	N/A	N/A	N/A
IME 1156 (IME 156)	2	SR	R	Introduction to Modern Electronics Manufacturing	N/A	N/A	2
IME 1223 (IME 223)	4	R	R	Process Improvement Fundamentals	MATH 1261 & IME 1101	2	2
IME 2200 (IME 200)				Special Problems for Undergraduates	N/A	1	1
IME 2212 (IME 212 + IME 312)	4	R		Introduction to Enterprise Analytics and Database Systems	CSC 1032	1	1
IME 2243 (IME 244)	2		R	Intermediate Design and Manufacturing	IME 1140 + IME 1143	N/A	1
IME 2315 (IME 315)	2	R	R	Financial Decision Making for Engineers	N/A	2	2
IME 3302 (IME 301 + IME 305)	4	R		Operations Research and Management	MATH 1151 or MATH 2341	1	2
IME 3303 (IME 303)	3	TE	TE	Project Organization and Management	IME 2315 or IME 315	1	1
IME 3320 (IME 320)	3			Human Factors and Technology	STAT 3210	N/A	N/A

IME 3326 (IME 326 + IME 430)	4	R		Statistical Decision-Making and Quality Control	STAT 3210 or STAT 321	1	1
IME 3327 (IME 327 + IME 430)	4		R	Test Design and Analysis in Manufacturing Engineering	STAT 3210 or STAT 321 or ME 3236	1	1
IME 3330 (IME 330)	4		R	Fundamentals of Manufacturing Engineering	IME 1141 or IME 1142; and IME 1143 and IME 2243 and ENGR 2211 and MATE 1210/1215	2	1
IME 3331 (IME 331)	4	TE	TE	Intermediate Metal Casting	IME 1140 + MATE 1210	N/A	N/A
IME 3332 (IME 332)	1	TE	TE	Advanced Materials Joining	IME 1142	1	N/A
IME 3336 (IME 336)	3		TE	Advanced Computer Aided Manufacturing	IME 1143 and IME 2243 and MATH 1151 or MATH 2341, and STAT 3210	N/A	N/A
IME 3356 (IME 356)	4	TE	R	Manufacturing and Process Automation	EE 2115/L	1	1
IME 3410 (IME 410)	4	R	TE	Production Planning and Control Systems	IME 1223	1	1
IME 3420 (IME 420)	4	R	TE	Process and System Simulation	IME 3326 or IME 3327	1	1
IME 3443 (IME 443)	4	R	TE	Facilities Design and Warehousing	IME 1223	N/A	2
IME 4319 (IME 319)	3	R	TE	Human Factors and Ergonomics in Engineering and Systems Design	IME 3326 or IME 3327; and PSY 2201	2	2
IME 4372 (IME 372)	4	R		Applications of Enterprise Analytics	IME 2212, IME 3326, and MATH 1151 or MATH 2341	N/A	2
IME 4400 (IME 400)		TE	TE	Special Problems for Advanced Undergraduates	Consent of chair & instructor	1	1
IME 4401 (IME 401)	1	TE	TE	Sales Engineering	Senior standing	N/A	N/A
IME 4403 (IME 403)	3	TE		Software Product Management	CSC 1032	1	N/A
IME 4408 (IME 408)	4	TE	TE	Systems Engineering	Senior standing	N/A	1
IME 4415 (IME 415)	4	TE	TE	Service Enterprises Engineering and Management	IME 3302	N/A	N/A
IME 4417 (IME 417)	4	R	TE	Supply Chain and Logistics Management	IME 3302	1	1
IME 4418 (IME 418)	4	TE	R	Product and Process Development	IME 3326 or IME 3327	1	N/A
IME 4421 (IME 421)	2	TE		Engineering Management	Junior standing and PSY 2201	N/A	1
IME 4424 (IME 424)	4	TE		Industrial Engineering in Healthcare	IME 1123	N/A	1
IME 4428 (IME 428)	3	TE	TE	Engineering Metrology	IME 1143 and IME 3327	N/A	N/A
IME 4432 (IME 432)	3	TE	TE	Additive Manufacturing	IME 1140 + MATE 1210	1	1

IME 4435 (IME 435)	3	TE	TE	Reliability for Design and Testing	STAT 3210	N/A	N/A
IME 4441 (IME 441)	1	TE	TE	Engineering Supervision	Junior standing	1	1
IME 4450 (IME 450)	4		R	Computer-Aided Manufacturing and Process Analysis	CSC 1032 + MATH 1151 OR 2341 + IME 3330	N/A	1
IME 4456 (IME 456)	3	TE	TE	Sensing Systems and the Industrial Internet of Things	CSC 1032	N/A	N/A
IME 4460 (IME 460)	3	TE	TE	Value Chain Analysis	Senior standing and IME 4422	N/A	N/A
IME 4461 (IME 481 + IME 482)	2	R	R	Senior Project - Design I	IME 2315 + IME 3326/3327 + IME	4	N/A
IME 4462 (IME 482 + IME 483)	2	R	R	Senior Project - Design II	IME 4461	N/A	4
IME 4470 (IME 470)		TE	TE	Special Advanced Topics		N/A	N/A
IME 4471 (IME 471)		TE	TE	Special Advanced Laboratory		N/A	N/A
IME 4495 (IME 495)				Cooperative Education Experience	Sophomore standing	1	1
<b>Graduate Program</b>		<b>MS EMG</b>	<b>MS IE</b>				
IME 5500 (IME 500)		TE	TE	Individual Study	Consent of chair, grad advisor, & instructor	1	1
IME 5503 (IME 503)	3	SR 1	R	Applied Statistical Methods in Engineering	Grad standing	1	N/A
IME 5507 (IME 507)	2	R	R	Graduate Seminar	Grad standing	1	N/A
IME 5510 (IME 510)	3	SR 5		Model-Based Systems Engineering	IME 4408 or Grad standing	1	N/A
IME 5520 (IME 520)	3	SR 5		Advanced Information Systems for Operations	Grad standing	N/A	1
IME 5527 (IME 527)	3	SR 3		Design of Experiments for Industrial Applications	IME 5526/5527 or Grad standing	N/A	1
IME 5535 (IME 535)	3	SR 4		Change Management for Engineering Leaders	Grad standing	N/A	1
IME 5541 (IME 541)	3	SR 3	R	Advanced Operations Research	Grad standing	1	N/A
IME 5543 (IME 543)	3	SR 3		Applied Human Factors	Grad standing	N/A	1
IME 5544 (IME 544)	3	SR 2		Advanced Engineering Economy	Grad standing	1	N/A
IME 5545 (IME 545)	3	SR 3	R	Advanced Simulation	Grad standing	N/A	1
IME 5556 (IME 556)	3	SR 4		Technological Project Management	Grad standing	1	N/A
IME 5565 (IME 565)	3	SR 1	R	Predictive Data Analytics for Engineers	IME 4372 or Grad standing	N/A	N/A
IME 5570 (IME 570)				Special Advanced Topics		N/A	N/A

IME 5571 (IME 571)				Special Advanced Laboratory		N/A	N/A
IME 5577 (IME 577)	3	SR 2		Engineering Entrepreneurship	Grad standing	1	1
IME 5580 (IME 580)	3	SR 5		Manufacturing Systems	Grad standing	N/A	N/A
IME 5598 (IME 596)		R	SR	Project	Grad standing and Instructor consent	13	13
IME 5599 (IME 599)			SR	Thesis	Grad standing and Instructor consent	13	13