

Note: No Major or Support courses may be selected as credit/no credit.

MAJOR COURSES		
IME 101	Intro to Industrial & Manufacturing Engr	1
IME 141	Manufacturing Processes: Net Shape	1
IME 142	Manufacturing Processes: Materials Joining	2
IME 144	Introduction to Design and Manufacturing	4
IME 156	Basic Electronics Manufacturing	2
IME 223	Process Improvement Fundamentals	4
IME 244	Intermediate Design and Manufacturing	2
IME 314	Engineering Economics	3
or IME 315	Financial Decision Making for Engineers	
IME 327	Test Design & Analysis in Manufacturing Engr	4
IME 330	Fundamentals of Manufacturing Engineering	4
IME 335	Computer-Aided Manufacturing I	4
IME 342	Manufacturing Systems Integration	4
IME 356	Manufacturing Automation	4
IME 417	Supply Chain and Logistics Management	4
IME 418	Product-Process Design	4
IME 430	Quality Engineering	4
IME 450	Manufacturing Process and Tool Engineering	4
IME 481	Senior Design Project I	6
& IME 482	and Senior Design Project II	
& IME 483	and Senior Design Project III ^{1,2}	
Technical Electives		13
Select from Category A (8-13 units) & Category B (0-5 units) below: ^{3,4}		
Total Major Units		74
SUPPORT COURSES		
BIO 213	Life Science for Engineers	4
& BMED 213	and Bioengineering Fundamentals (B2) ⁶	
CE 204	Mechanics of Materials I ⁵	3
CHEM 124	Gen CHEM for Physical Sci & Engr I (B1 & B3) ⁶	4
CHEM 125	Gen CHEM for Physical Sci & Engineering II	4
CSC 232	Computer Programming for Scientists & Engineers	3
EE 201	Electric Circuit Theory	3
EE 251	Electric Circuits Laboratory	1
EE 321	Electronics	3
ENGL 147	Writing Arguments about STEM (A3) ⁶	4
MATE 210	Materials Engineering	3
MATE 215	Materials Laboratory I	1
MATH 141	Calculus I (B4) ⁶	4
MATH 142	Calculus II (B4) ⁶	4
MATH 143	Calculus III (Area B Electives) ⁶	4
MATH 241	Calculus IV	4
MATH 244	Linear Analysis I	4
ME 211	Engineering Statics	3
ME 212	Engineering Dynamics	3
ME 302	Thermodynamics I	3
PHYS 141	General Physics IA (Area B Electives) ⁶	4
PHYS 142	General Physics II	4
PHYS 143	General Physics III	4
STAT 321	Probability & Statistics for Engineers & Scientists (Upper-Division B) ⁶	4
Total Support Units		78

GENERAL EDUCATION		
Area A English Language Communication and Critical Thinking		
A1	Oral Communication	4
A2	Written Communication	4
A3	Critical Thinking (4 units in Support) ⁶	0
Area B Scientific Inquiry and Quantitative Reasoning		
B1	Physical Science (4 units in Support) ⁶	0
B2	Life Science (4 units in Support) ⁶	0
B3	One lab taken with either a B1 or B2 course	
B4	Mathematics/Quantitative Reasoning (8 units in Support) ⁶	0
Upper-Division B (4 units in Support) ⁶		0
Area B Electives (8 units in Support) ⁶		0
Area C Arts and Humanities		
Lower-division courses in Area C must come from three different subject prefixes.		
C1	Arts	4
C2	Humanities	4
Lower-Division C Elective - Select a course from either C1 or C2.		4
Upper-Division C		4
Area D Social Sciences		
D1	American Institutions (Title 5, Section 40404 Requirement)	4
Area D Elective - Select either a lower-division D2 or upper-division D course.		4
Area E Lifelong Learning and Self-Development		
Lower-Division E		4
Area F Ethnic Studies		
F	Ethnic Studies	4
Total GE Units		40
FREE ELECTIVES		0
TOTAL DEGREE UNITS		192

FOOTNOTES
1 ENGR 459, ENGR 460 and ENGR 461 (6) may substitute for IME 481, IME 482 and IME 483 (6).
2 ENGR 463, ENGR 464 and ENGR 465 (6) may substitute for IME 481, IME 482 and IME 483 (6).
3 If a course is taken to meet the Technical Electives requirement, it cannot be double-counted to satisfy another Major or Support requirement.
4 Consultation with an advisor is recommended prior to selecting Technical Electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals. Upper-division courses not on this list may substitute as Technical Electives, if approved by an advisor and the Industrial and Manufacturing Engineering department chair.
5 CE 208 (5) may substitute for both CE 204 (3) and CE 207 (2).
6 Required in Major or Support; also satisfies General Education (GE) requirement.

Technical Electives	13
Select from Category A (8-13 units) & Category B (0-5 units) below: ^{3,4}	

Category A		Category B	
BMED 410	Biomechanics	BMED 212	Introduction to Biomedical Engineering Design
EE 361	Electronics Laboratory	BUS/ENGR 310	Introduction to Entrepreneurship
EE 434	Automotive Engineering for a Sustainable Future	BUS 311	Managing Technology in the International Legal Environment
IME 301	Operations Research I	BUS 346	Principles of Marketing
IME 303	Project Organization and Management	BUS 382	Leadership and Organizations
IME 305	Operations Research II	CE 207	Mechanics of Materials II 5
IME 312	Data Management and System Design	ENGR 350	The Global Environment
IME 319	Human Factors Engineering	IME 212	Introduction to Enterprise Analytics
IME 331	Intermediate Metal Casting	IME 401	Sales Engineering
IME 336	Computer-Aided Manufacturing II	IME 421	Engineering Management
IME 400	Special Problems for Advanced Undergraduates	IME 441	Engineering Supervision I
IME 408	Systems Engineering	IME 460	Introduction to Value Chain Analysis
IME 409	Economic Decision Systems	ITP 326	Product Design and Development
IME 410	Production Planning and Control Systems	ITP 330	Packaging Fundamentals
IME 415	Service Enterprises Engineering and Management	ITP 341	Packaging Polymers and Processing
IME 416	Automation of Industrial Systems	ITP 371	Supply Chain Management in Manufacturing and Services
IME 420	Simulation	ITP 406	Professional Technical Selling
IME 424	Industrial Engineering in Healthcare	ITP 428	Commercialization of New Technologies
IME 428	Engineering Metrology	ME 234	Philosophy of Design
IME 429	Ergonomics Laboratory		
IME 432	Additive Manufacturing		
IME 435	Reliability for Design and Testing		
IME 443	Facilities Planning and Design		
IME 451	Radio Frequency Identification and Sensing System Design		
IME 456	The Industrial Internet of Things		
IME 457	Advanced Electronic Manufacturing		
458/CPE 488	Microelectronics and Electronics Packaging		
IME 470	Selected Advanced Topics		
IME 471	Selected Advanced Laboratory		
IME 510	Systems Engineering I		
IME 511	Systems Engineering II		
IME 520	Advanced Information Systems for Operations		
IME 527	Design of Experiments		
IME 541	Advanced Operations Research		
IME 542	Applied Reliability Engineering		
IME 543	Applied Human Factors		
IME 544	Advanced Topics in Engineering Economy		
IME 545	Advanced Topics in Simulation		
MATE 401	Materials Characterization Techniques		
MATE 410	Nanoscale Engineering		
MATE 430	Micro/Nano Fabrication		
MATE 435	Microfabrication Laboratory		
MATE 440	Welding Metallurgy and Joining of Advanced Materials		
MATE 445	Joining of Advanced Materials Laboratory		
MATH 344	Linear Analysis II		
MATH 350	Mathematical Software		
ME 303	Thermodynamics II		
ME 305	Introduction to Mechatronics		
ME 318	Mechanical Vibrations		
ME 326	Intermediate Dynamics		
ME 328	Design for Strength and Stiffness		
ME 329	Mechanical Systems Design		
ME 341	Fluid Mechanics I		
ME 343	Heat Transfer		
ME 405	Mechatronics		
ME 415	Energy Conversion		