

MECHATRONICS ENGINEERING

NAME:

UID:

GENERAL EDUCATION REQUIREMENTS			
Fundamental Studies			
Academic Writing (AW)	ENGL 101		3
Professional Writing (PW)	ENGL 39X		3
Oral Communication (OC)			3
Mathmatics (MA)	MATH140		4
Analytic Reasoning (AR)	MATH140		0
Distributive Studies			
History/Social Sciences (HS*)			3
History/Social Sciences (HS*)			3
Humanities (HU*)			3
Humanities (HU*)			3
Natural Sciences No Lab (NS)	PHYS 161		3
Natural Sciences w/Lab (NL)	PHYS 260/261		4
Scholarship in Practice (SP*) in major	ENES 100		3
Scholarship in Practice (SP*) out major			3
Big Question Courses			
Big Question (SCIS*)			0/3
Big Question (SCIS*)			0/3
Diversity			
Understanding Plural Societies (UP*)			0/3
Understanding Plural Societies (UP*) OR Cultural Competency (CC*)			0/3
MAJOR REQUIREMENTS			
Basic Sciences			
CHEM 135 - Chem for Eng OR 131 & 134-Fund & Prin			3/3&1
PHYS 161 - General Physics I (NS)			0
PHYS 260 and PHYS 261 - Gen Physics II & Lab (NL)			0
PHYS 270 and PHYS 271 - Gen Physics III & Lab			3 & 1
MATH 140 - Calculus I (MA/AR)			0
MATH 141 - Calculus II			4
ENME/ENAE202 - Computing Engineers			3
MATH 241 - Calculus III			4
MATH 240 or MATH461 - Linear Algebra			4 or 3
MATH 246 - Differential Equations			3
Engineering Sciences			
ENES 100 - Intro to Eng Design (SP)			0
ENES 102 - Mechanics I			3
ENES 220 - Mechanics II			3
ENES 232 - Thermodynamics			3

* Can double/triple count with I-series and/or Diversity.

** See Major-specific websites or advisors for appropriate electives.

MAJOR SPECIFIC COURSES		
ENMT 301 - Structural Dynamics		3
ENMT 313 - Real Time Software Systems		3
ENMT 322 - Discrete Signal Analysis		3
ENMT 332 - Classical Control Theory		3
ENMT 361 - Mechatronics & Controls Lab I		3
ENMT 362 - Mechatronics & Controls Lab II		3
ENMT 372 - Robotic Systems		3
ENMT 380 - Intro to Robotics		3
ENMT 450 - Robotics Programming		3
ENMT 471 - Manufacturing & Automation		3
ENMT 473 - Motion Planning Autonomous		3
ENMT 477 - Machine Learning Mechatronics		3
ENMT 483 - Mechatronic Systems I		3
ENMT 484 - Mechatronics Systems II		3
Electives		
Technical Elective		3
Technical Elective		3
Program Elective		3

Requirements for Graduation:
- Final 30 credits must be earned at UMD 15 of the final 30 credits must be earned at the 300-400 level 12 of the final 30 credits must be upper level major coursework - A minimum 2.00 cumulative UM GPA and satisfactory completion of all degree requirements are required for graduation - Students matriculating after Fall 2012 must have a 2.0 minimum GPA for all major requirements, minor requirements, and undergraduate certificate requirements <i>(Major courses are defined as: departmental courses, basic sciences, engineering sciences, specified degree tracks, technical requirements/ electives and Professional Writing (PW))</i> - A minimum of 124 credits is required to earn the degree

Mechatronics Engineering Graduation Plan

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Year 1*	Fall		
	Course	Credit	Grade
	MATH 140 (AR/MA)	4	
	GenEd	3	
	CHEM 135	3	
	ENES 100 (SP)	3	
	ENGL 101 (AW)	3	
	Total	16	

Spring		
Course	Credit	Grade
MATH 141	4	
PHYS 161	3	
ENES 102	3	
ENAE 202	3	
GenEd	3	
Total	16	

Year 2*	Fall		
	Course	Credit	Grade
	MATH 241	4	
	PHYS 260 & PHYS 261	4	
	ENES 220	3	
	GenEd	3	
	GenEd	3	
	Total	17	

Spring		
Course	Credit	Grade
MATH 246	3	
MATH 240 or MATH 461	4 or 3	
ENES 232	3	
PHYS 270 & PHYS 271	4	
GenEd	3	
Total	16 or 17	

Year 3	Fall		
	Course	Credit	Grade
	ENMT 301	3	
	ENMT 322	3	
	ENMT 361	3	
	ENMT 380	3	
	GenEd	3	
	Total	15	

Spring		
Course	Credit	Grade
ENMT 313	3	
ENMT 332	3	
ENMT 362	3	
ENMT 372	3	
Professional Writing (PW)	3	
Total	15	

Year 4	Fall		
	Course	Credit	Grade
	ENMT 450	3	
	ENMT 471	3	
	ENMT 473	3	
	ENMT 483	3	
	GenEd (as needed)	3	
	Total	15	

Spring		
Course	Credit	Grade
ENMT 477	3	
ENMT 484	3	
ENMT 4xx	3	
ENMT 4xx	3	
ENXX 4xx	3	
Total	15	

*Students are expected to satisfy all general education requirements including fundamental studies, distributive studies, big question, and diversity courses, before entry into the Mechatronics major.

Updated Fall 2026