

General Engineering, A.S.

Montgomery College	Year 1	Fall Semester		Spring Semester	
		Course	Credits	Course	Credits
		*^CHEM 131 - Principles of Chemistry I	4	*CHEM 132 - Principles of Chemistry II	4
		*MATH 181 - Calculus I	4	*^ENES 102 - Statistics	3
		*^ENES 100 - Introduction to Engineering Design	3	*^MATH 182 - Calculus II	4
		ENGL 102 - Critical Reading, Writing, and Research	3	*PHYS 161 - General Physics I: Mechanics and Heat	3
		Behavioral Social Sciences Distribution	3	*^ENEE 206 - Introduction to Programming Concepts for Eng	1
			**Humanities Distribution (Foreign Language)	3	
		Total	Total	18	
	Year 2	Course	Credits	Course	Credits
		*MATH 280 - Multivariable Calculus	4	*MATH 282 - Differential Equations	3
		*ENES 220 - Mechanics of Materials	3	*ENES 272 - Introduction to CAD	2
		*ENES 232 - Thermodynamics	3	Behavioral Social Sciences Distribution	3
		*PHYS 262 - General Physics II: Electricity and Magnetism	4	*ENES 221 - Dynamics	3
*ENES 104 - Introduction to Engineering Professions		1	**Foreign Language	3	
**Foreign Language		3			
	Total	Total	14		

Articulation Notes:

* Course can be used to satisfy UMBC major requirements when completed with a "C" or better.

** **Foreign Language Requirement:** The language requirement consists of completion of a foreign language through the 201 level or demonstrated proficiency at that level. The proficiency requirement is met by previous experience as follows: 1) completion of level 4 or higher of a language in high school, or 2) corresponding AP, IB or CLEP credit, or 3) completion of a language through the 201 level at a regionally accredited college or university. The Shady Grove Transfer Credit Limit Exception is available to students who earn an associate degree prior to transferring to UMBC at Shady Grove and will permit the transfer of up to 66 credits, instead of the standard 60-credit transfer limit, from a Maryland two-year school to UMBC on the condition that six (6) of the 66 credits are language courses directly applicable toward the 201-level language sequence required as part of the UMBC general education program.

^ **Gateway Requirement:** Students are permitted to take upper-level Mechanical Engineering courses once the following gateway requirements are fulfilled: MATH152, ENES101, ENME110 with a grade of "B" or better and CHEM101 with a grade of "C" or better. Students are permitted to retake up to two of the gateway courses one time to earn the required grade. Enrolling in a gateway course at UMBC or another institution is considered an attempt.

Mechanical Engineering, B.S.

UMBC	Year 3	Fall Semester		Spring Semester	
		Course	Credits	Course	Credits
		ENME 301 - The Structure and Properties of Engineering M	3	ENME 304 - Machine Design	3
		ENME 303 - Engineering Mathematics	3	ENME 321 - Transfer Processes	3
		ENME 320 - Fluid Mechanics	3	ENME 332L - Solid Mechanics and Materials Laboratory	3
		Social Science General Education Requirement	3	ENME 360 - Vibrations	3
		CMPE 306 - Introductory Circuit Theory	4	STAT 355 - Introduction to Probability and Statistics for Scier	4
		Total	Total	16	
	Year 4	Course	Credits	Course	Credits
		ENME 403 - Automatic Controls	3	ENME 444 - Systems Design	3
		ENME 432L - Fluid/Energy Lab	2	ENME 482L - Vibrations/Control Lab	2
		ENME 4XX - Tech/Design Elective	3	ENME 4XX - Tech/Design Elective	3
		S/DE - Science/Design Elective	3	Arts and Humanities General Education Requirement	3
		Elective	3	Elective	3
		Total	Total	14	

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