Suggested Transfer Pathway

Montgomery College A.S. in General Engineering to University of Maryland, College Park at the Universities at Shady Grove B.S. in Embedded Systems and Internet of Things

Total Credits: 63, Catalog Year: 2019-2020

0 - 32 Credits – Montgomery College

(Courses may be taken in any order, pending prerequisites)

	Cr
ENGL101 College Writing (if needed for ENGL102)	3
ENES100 Intro to Engineering Design (GEEL)	3
MATH181 Calculus I	4
CHEM 132* Principles of Chemistry II or 135 General Chemistry for Engineers	4
Humanities Distribution	3
Total Credits	**17**

	Cr
ENGL102 Critical Reading, Writing and Research	3
MATH182 Calculus II	4
PHYS161 General Physics I: Mechanics and Heat	3
Behavioral and Social Sciences Distribution **	3
ENES/ENEE Elective	3
Total Credits	**16**

33 - 63 Credits – Montgomery College

	Cr
MATH280 Multivariable Calculus	4
PHYS262 Physics II: Electricity and Magnetism	4
Behavioral and Social Sciences Distribution *	3
ENES/ENEE Electives	6
Total Credits	**17**

	Cr
MATH282 Differential Equations	3
PHYS263 Physics III: Waves, Optics, Modern Physics	4
Arts Distribution	3
CMSC140 Introduction to Programming or CMSC203 Computer Science I	3-4
Program Electives †	3
Total Credits	**16-17**

Apply to graduate from Montgomery College with an Associate of Science in General Engineering

** The pre-requisite for CHEM 132 is CHEM 131.

** BSSD courses must come from different disciplines.

† MATH 165 if needed for MATH 181 or any course from the following disciplines: ENEE, ENES, PHYS, CMSC, CHEM, BIOL, GEOL.

Year Three – Univ. of Maryland, College Park at USG

Fall Semester	Cr
ENEB302 Analog Circuits	4
ENEB340 Intermediate Programming Concepts and Applications for Embedded Systems (C/C++)	2
ENEB341 Introduction to Internet of Things	3
ENEB344 Introduction to Digital Circuits	4
ENEB354 Discrete Mathematics for Information Technology	3
Total Credits	**16**

Spring Semester	Cr
ENEB304 Microelectronics and Sensors	3
ENEB352 Introduction to Networks and Protocols	3
ENEB353 Computer Organization for Embedded Systems	3
ENEB355 Algorithms in Python	3
ENGL393 Technical Writing	3
Total Credits	**15**

Year Four – Univ. of Maryland, College Park at USG

Fall Semester	Cr
ENEB408X Capstone Design Lab I	3
ENEB454 Embedded Systems	3
ENEB4xx Senior Level Elective 1	3
ENEB4xx Senior Level Elective 2	3
ENEB4xx Senior Level Elective 3	3
Total Credits	**15**

Spring Semester	Cr
ENEB408X Capstone Design Lab II	3
ENEB443 Hardware/Software Security for Embedded Systems	3
ENEB4xx Senior Level Elective 4	3
ENEB4xx Senior Level Elective 5	3
ENEB4xx Senior Level Elective 6	3
Total Credits	**15**

MC A.S. in General Engineering to UMD-USG B.S. in Embedded Systems and Internet of Things

Total Credits: 63, Catalog Year 2019-2020

Name:	Date:	ID#	
General Education Courses	**COURSE**	**HRS**	**GRADE**
English Foundation (ENGL102, Critical Reading, Writing and Research)	ENGL102	3	
Math Foundation (Calculus I)	MATH181	4	
Distribution Courses	**COURSE**	**HRS**	**GRADE**
NSND: General Physics I: Mechanics and Heat	PHYS161	3	
NSLD: General Physics II: Electricity and Magnetism	PHYS262	4	
Arts Distribution		3	
Behavioral and Social Sciences Distribution *		3	
Behavioral and Social Sciences Distribution *		3	
Humanities Distribution		3	
General Education Elective	**COURSE**	**HRS**	**GRADE**
Introduction to Engineering Design	ENES100	3	
Program Requirements	**COURSE**	**HRS**	**GRADE**
ENGL101 (if needed for ENGL102/ENGL103, general elective if not)		3	
Calculus II	MATH182	4	
Differential Equations	MATH282	3	
Area of Concentration Requirements	**COURSE**	**HRS**	**GRADE**
Principle of Chemistry II or General Chemistry for Engineers	CHEM 132 or CHEM135	4	
Multivariable Calculus	MATH280	4	
General Physics III: Waves, Optics and Modern Physics	PHYS263	4	
ENES/ENEE Electives		6	
CMSC140 Introduction to Programming or CMSC203 Computer Science I	CMSC140 or CMSC203	3	
Program Electives †		3	

***** BSSD courses must come from different disciplines

† MATH 165 if needed for MATH 181 or any course from the following disciplines: ENEE, ENES, PHYS, CMSC, CHEM, BIOL, GEOL.

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