

MIDDLESEX COUNTY COLLEGE
Division of Professional Studies
 The Engineering Technologies Department

Associate in Science Degree Engineering Science, ES.AS

<u>Semester I</u>	<u>Credits</u>	<u>Semester II</u>	<u>Credits</u>
CHM 121 General Chemistry I Lec ¹	3__	CHM 122 General Chemistry II Lec ⁶	3__
CHM 125 General Chemistry I Lab ²	1__	CHM 126 General Chemistry II Lab ⁷	1__
ENR 106 Introduction to Solving Engineering Problems Using Computers ³	3__	ENG 122 English Composition II ⁸	3__
ENG 121 English Composition I ⁴	3__	MAT 132 Analytic Geometry and Calculus II ⁹	4__
MAT 131 Analytic Geometry and Calculus I ⁵	4__	PHY 133 Analytical Physics I ¹⁰	3__
MEC 119 Graphic Science	2__	PHY 135 Analytical Physics I Lab ¹⁰	1__
		General Education Social Science	3__
		Elective (GE SS) ¹¹	3__
	Total: 16		Total: 18

<u>SENIOR YEAR</u>			
<u>Semester III</u>	<u>Credits</u>	<u>Semester IV</u>	<u>Credits</u>
___ ___ Technical Elective ¹²	3/4__	___ ___ Technical Elective ¹²	3/4__
MAT 233 Analytic Geometry and Calculus III ¹³	4__	MAT 234 Differential Equations ¹⁸	4__
MEC 221 Engineering Mechanics I ¹⁴	3__	PHY 236 Analytical Physics III ¹⁹	3__
PHY 134 Analytical Physics II ¹⁵	3__	PHY 239 Analytical Physics III Lab ²⁰	1__
PHY 136 Analytic Physics II Lab ¹⁶	1__	___ ___ General Education Humanities or Social Science	
___ ___ General Education Humanities Elective (GE HUM) ¹⁷	3__	Elective (GE HUM or GE SS) ^{11 or 17}	3__
	Total: 17/18		Total: 14/15

Technical Electives

Total Credits Required: 65-67

CHEMICAL ENGINEERING		ELECTRICAL ENGINEERING	
CHM 221	Organic Chemistry I Lec ²¹	ELT 221	Electric Circuits I ¹³
CHM 227	Organic Chemistry I Lab ²²	ELT 222	Electric Circuits II ²⁶
CHM 222	Organic Chemistry II Lec ²³	ELT 231	Digital Logic Circuits and Systems ²⁷
CHM 228	Organic Chemistry II Lab ²⁴	CSC 133	Introduction to Computer Science using C++ ²⁸
CIVIL ENGINEERING		MECHANICAL ENGINEERING	
CIT 253	Mechanics of Materials ²⁵	CIT 253	Mechanics of Materials ²⁵
MEC 222	Engineering Mechanics II ²⁵	MEC 222	Engineering Mechanics II ²⁵

1. Two years of high school algebra and geometry or MAT-014 and one year of high school chemistry or CHM-020.
2. Two years of high school algebra and geometry or MAT-014 and one year of high school chemistry or CHM-020. Co-requisites: CHM-121.
3. MAT-129.
4. A passing score on the College's Placement Test or a grade of "C" or better in ENG-010 and RDG-011 (RDG-011 can be a co-requisite; or a grade of "C" or better in ESL-097 or ESL-098).
5. MAT-129, or equivalent, or appropriate score on the College placement test or satisfactory score on the diagnostic examination, or departmental approval
6. CHM-121 with a grade of "C" or better.
7. CHM-121, CHM-125 with a grade of "C" or better. Co-requisites CHM-122.
8. A grade of "C" or better in ENG-121.
9. MAT-131 or equivalent.
10. One year of high school laboratory physics. Co-requisites: MAT-131 or equivalent.
11. Choose one course designated in the course descriptions as General Education Social Science (GE SS).
12. See Technical Electives in list below
13. MAT-132 or equivalent
14. MAT-131
15. PHY-133 Co-requisites: MAT-132 or equivalent.
16. PHY-135 Co-requisites: MAT-132 or equivalent
17. Choose one course designated in the course descriptions as General Education Humanities (GE HUM).
18. MAT-233 or written permission of the Department Chairperson
19. MAT-132 and PHY-134
20. MAT-132 and PHY-136 or one year of integral and differential calculus
21. CHM-122 with a grade of "C" or better
22. CHM-122, CHM-126 with a grade of "C" or better. Co-requisites: CHM -221 Lab
23. CHM-221 Lecture with a grade of "C" or better, CHM 227 Lab
24. CHM-221, CHM 227 with a grade of "C" or better. Co-requisites: CHM-222
25. MEC-221
26. ELT-221
27. ENR-106 or equivalent and ELT-221 or equivalent
28. MAT-014 or appropriate score on the College placement test.