

**MIDDLESEX COUNTY COLLEGE**  
**Division of Professional Studies**  
The Engineering Technologies Department

**Associate in Science Degree Engineering Science**

**Sample Two-Year Course of Study**

		<u>FRESHMAN YEAR</u>			
<u>Semester I</u>	<u>Credits</u>	<u>Semester II</u>	<u>Credits</u>	<u>Semester II</u>	<u>Credits</u>
CHM 121	General Chemistry I Lec <sup>1</sup>	3__	CHM 122	General Chemistry II Lec <sup>6</sup>	3__
CHM 125	General Chemistry I Lab <sup>1</sup>	1__	CHM 126	General Chemistry II Lab <sup>6</sup>	1__
ENR 106	Introduction to Solving Engineering Problems Using Computers <sup>2</sup>	__	ENG 122	English Composition II <sup>7</sup>	3__
ENG 121	English Composition I <sup>3</sup>	3__	MAT 132	Analytic Geometry and Calculus II <sup>8</sup>	4__
MAT 131	Analytic Geometry and Calculus I <sup>4</sup>	4__	PHY 133	Analytical Physics I <sup>9</sup>	3__
MEC 119	Graphic Science	2__	PHY 135	Analytical Physics I Lab	1__
PED __	Physical Education Elective <sup>5</sup>	1__	__ __	General Education Social Science Elective (GE SS)	3__
		<b>Total: 14</b>			<b>Total: 18</b>

		<u>SENIOR YEAR</u>			
<u>Semester III</u>	<u>Credits</u>	<u>Semester IV</u>	<u>Credits</u>	<u>Semester IV</u>	<u>Credits</u>
__ __	Technical Elective	3/4__	__ __	Technical Elective	4__
MAT 233	Analytic Geometry and Calculus III <sup>10</sup>	4__	MAT 234	Differential Equations <sup>13</sup>	4__
MEC 221	Engineering Mechanics I <sup>11</sup>	3__	PHY 236	Analytical Physics III <sup>14</sup>	3__
PHY 134	Analytical Physics II <sup>12</sup>	3__	PHY 239	Analytical Physics III Lab	1__
PHY 136	Analytical Physics II Lab	1__	__ __	General Education Humanities or Social Science Elective (GE HUM or GE SS)	3__
__ __	General Education Humanities Elective (GE HUM)	3__			
		<b>Total: 17/18</b>			<b>Total: 15</b>

**Technical Electives**

**Total Credits Required: 64/65**

<b>CHEMICAL ENGINEERING</b>		Credits	<b>ELECTRICAL ENGINEERING</b>		Credits
CHM 221	Organic Chemistry I Lec <sup>15</sup>	3__	ELT 221	Electric Circuits I <sup>10</sup>	4__
CHM 227	Organic Chemistry I Lab <sup>15</sup>	1__	ELT 222	Electric Circuits II <sup>17</sup>	4__
CHM 222	Organic Chemistry II Lec <sup>16</sup>	3__	ELT 231	Digital Logic Circuits and Systems <sup>19</sup>	4__
CHM 228	Organic Chemistry II Lab <sup>16</sup>	1__	CSC 133	Introduction to Computer Science using C++ <sup>1</sup>	4__
<b>CIVIL ENGINEERING</b>		Credits	<b>MECHANICAL ENGINEERING</b>		Credits
ELT 221	Electric Circuits I <sup>10</sup>	4__	ELT 221	Electric Circuits I <sup>10</sup>	4__
MEC 222	Engineering Mechanics II <sup>18</sup>	3__	MEC 222	Engineering Mechanics II <sup>18</sup>	3__
CIT 253	Mechanics of Materials <sup>18</sup>	3__	CIT 253	Mechanics of Materials <sup>18</sup>	3__

1. MAT 014 or appropriate score on the college Placement Test and one year of high school chemistry.
2. ENR 106 is not a required course. Students who choose to transfer should consult with their academic advisor to select an appropriate computer science course that will satisfy the transfer institutes requirement. Prereq. MAT 129A & MAT 129 B or MAT 129
3. A passing score on the writing portion of the College's Placement Test or a grade of "C" or better in ENG 010; completion of RDG 009 with a "C" or better or a score on the reading portion of the College Placement Test that exempts the students from RDG 009.
4. MAT 129, or 129B, or appropriate score on the College Placement Test and /or satisfactory score on the Diagnostic Examination, or departmental approval.
5. Students have the option of substituting Health Educational Electives in place of the Physical Education Elective
6. CHM 121, CHM 125
7. A grade of "C" or better in ENG 121 and a passing score on the reading portion of the College Placement Test or a grade of "C" or better in ENG 121 and a grade of "C" or better in RDG 011.
8. MAT 131, 131B, or equivalent
9. One year of high school laboratory physics. Corequisites: MAT 131 or equivalent.
10. MAT 132 or equivalent
11. MAT 131 or MAT 131B
12. PHY 131. Corequisites: MAT 132 or equivalent.
13. MAT 233 or approval of Department Chairperson of Mathematics
14. PHY 132, MAT 132
15. CHM 122 or equivalent
16. CHM 221, CHM 227 or equivalent
17. ELT 221
18. MEC 221
19. ENR 106, ELT 221 or equivalent