

# Engineering Science

# EGR.AS

CODE	COURSE	CREDITS	CODE	COURSE	CREDITS
<b>First Year/First Semester</b>			<b>Second Year/First Semester</b>		
ENG-101	English Composition I	3	MTH-145	Linear Algebra	4
CAD-101	Computer Aided Engineering Graphics	4	MTH-210	Calculus III	4
CHM-111	Chemistry I - Science	4	CSC-121	Structured Programming (C++)	4
MTH-140	Calculus I	4	EGR-201	Statics <sup>1</sup>	3
PHY-201	Physics III	4	.....	Social Science General Education Elective <sup>2</sup>	3
		<b>19</b>			<b>18</b>
<b>Second Semester</b>			<b>Second Semester</b>		
ENG-102	English Composition II	3	MTH-220	Differential Equations	4
CHM-112	Chemistry II - Science	4	EGR-211	Engineering Circuit Analysis	3
MTH-150	Calculus II	4	EGR-202	Dynamics <sup>1</sup>	3
PHY-202	Physics IV	4	.....	Humanities General Education Elective	3
EGR-101	Introduction to Engineering	2	.....	Diversity - Humanities General Education Elective	3
		<b>17</b>			<b>16</b>
				<b>Total Minimum Credits</b>	<b>70</b>

<sup>1</sup> Students planning to major in Chemical Engineering should take Organic Chemistry I & II in lieu of Statics and Dynamics.

<sup>2</sup> Microeconomics (ECO-102) is recommended.

### PROGRAM DESCRIPTION

Engineering uses the physical sciences and mathematics to design and develop products and systems. It uses advanced techniques to find solutions to technical problems and other complex issues facing society. This program represents the first two years of a baccalaureate engineering program. Students must transfer to a college of engineering, specializing in a specific discipline.

### PROGRAM GOALS

- To prepare students to use a multi-disciplinary set of core theories from mathematics and physical sciences and apply them to solve problems in higher-level courses in a college of engineering.
- To instill in the students a commitment to lifelong learning in preparation to transfer credits to a baccalaureate engineering science program and obtain professional licensure.
- To provide students with a General Education foundation.

### PROGRAM STUDENT LEARNING OUTCOMES

- At the end of the program, the graduate will be able to:
1. Utilize advanced mathematics, including Calculus, to solve problems in physical and applied sciences related to engineering.
  2. Work in teams to successfully analyze and propose alternate strategies to solve problems in systems, processes or products.
  3. Utilize specialized computer programs to improve productivity in different engineering disciplines.
  4. Compare and contrast different engineering disciplines.
  5. Apply the scientific method of inquiry to analyze problems and draw conclusions from data.

### SPECIAL ADMISSION REQUIREMENTS

Students entering this program should have had above-average achievement in high school science and mathematics and should have taken one year of high school physics, chemistry, pre-calculus and English.

To begin this program, students must have had three years of academic mathematics, including pre-calculus.

### TRANSFER TIP

Students transferring to Drexel should take Biology I - Science, BIO-111 in addition to courses within the program.

### TRANSFER INSTITUTIONS

- Drexel University
  - Temple University
  - Rowan University
  - Rutgers University
  - New Jersey Institute of Technology
- Contact the coordinator for a complete list

### POST-BACCALAUREATE EMPLOYMENT OPPORTUNITIES

- Design engineer
- Insurance adjuster
- Production engineer
- Laboratory supervisor
- Research and development assistant
- Sales and technical support

### CONTACT PERSONS

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### Highlights

*Camden County College has specific articulation agreements with the engineering science programs at several colleges and universities in the area. The program successfully transfers to most engineering colleges throughout the country.*