

Engineering Science (A.S.)

HEGIS: 5609

SUNY CODE: 0530

This curriculum provides a sound academic core preparing the student to transfer into Baccalaureate Engineering programs. Transfer opportunities within the SUNY system include mechanical, biomedical, industrial, chemical, civil and environmental engineering.

Admission Standards:

To be considered for admission into the Engineering Science program, high school graduates must have a cumulative average of "80" or higher and a grade of "80" in Regents Physics and a grade of "85" in Precalculus. Transfer students must have a GPA of 3.0 with a "B" or better in college Precalculus and a "C" or higher in Physics.

The goals of this program are to:

- Provide students with the mathematical and scientific educational experiences and methods engineers use to solve technical problems
- Provide students with the methodology and critical thinking skills to analyze systems using mathematical and scientific concepts for engineering applications

Successful graduates of this program will be have:

- A comprehensive knowledge base of Engineering Science
- The ability to discuss and evaluate current issues in Engineering Science

Career Opportunities/Transfer Information:

We have articulation agreements with SUNY Binghamton and SUNY Canton. Taking these courses does not ensure that all first two-year requirements have been met; nor will it guarantee acceptance in all programs at all institutions. The following engineering discipline course requirements are based on the Engineering SUNY Pathways. It is important that the student contact the four-year institution for the specific matriculated degree requirements for that institution. For additional information, please contact the Transfer Office.

Program of Study:

1st Year

1st Semester

<u>EN 111</u>	College Writing	3
<u>EG 191</u>	Introduction to Engineering	3
<u>FS 100</u>	First Year Student Seminar	1
<u>IS 171</u>	Computer Science	3
<u>MA 245</u>	Calculus I	4
<u>SC 153</u>	General Chemistry I	4
	Total Credit Hours:	18

2nd Semester

<u>EN 112</u>	College Literature	3
<u>MA 246</u>	Calculus II	4
<u>SC 233</u>	Calculus Physics I	4

Engineering Pathway Elective 1	3-4
OR	
The Arts Selective	
Total Credit Hours:	14-15

2nd Year

3rd Semester

EG 230	Statics	3
MA 247	Calculus III	4
SC 234	Calculus Physics II	4
	American History Selective	3
	Engineering Pathway Elective 2	3-4
	OR	
	Social Science Selective	
	Physical Education Activity	1
Total Credit Hours:		18-19

4th Semester

MA 251	Differential Equations	3
	Engineering Pathway Elective 1	3-4
	OR	
	The Arts Selective	
	Engineering Pathway Elective 2	3-4
	OR	
	Social Science Selective	
	Engineering Pathway Elective 3	3-4
	Physical Education Activity	1
Total Credit Hours:		13-16

TOTAL CREDIT HOURS: 63-68

Students are required to choose a pathway concentration prior to beginning the spring semester of their first year. In order to meet graduation requirements, students must successfully complete one of the following pathway options.

Biomedical and Chemical Engineering SUNY Transfer Pathway

- Engineering Pathway Elective 1: [SC 154](#) General Chemistry II w/lab (Must be taken 2nd semester).
- Engineering Pathway Elective 2: [SC 225](#) Organic Chemistry I w/lab (Must be taken 3rd semester).
- Engineering Pathway Elective 3: SC 238 Strength of Materials (Must be taken 4th semester).

Civil Engineering SUNY Transfer Pathway

- Engineering Pathway Elective 1: [SC 154](#) General Chemistry II w/lab (Must be taken 2nd semester).
- Engineering Pathway Elective 2: Natural Science Elective
- Engineering Pathway Elective 3: SC 238 Strength of Materials (Must be taken 4th semester).

Aerospace & Mechanical Engineering SUNY Transfer Pathway

- Engineering Pathway Elective 1: EG239 Dynamics (Must be taken 4th semester).
- Engineering Pathway Elective 2: [EG 238](#) Strength of Materials (Must be taken 4th semester).
- Engineering Pathway Elective 3: [EG 275](#) Electronic Circuits I (Must be taken 4th semester).

Environmental Engineering SUNY Transfer Pathway

- Engineering Pathway Elective 1: [SC 154](#) General chemistry II w/lab (Must be taken 2nd semester).

- Engineering Pathway Elective 2: [SC 155](#) Biology (Must be taken 3rd semester).
- Engineering Pathway Elective 3: [EG 238](#) Strength of Materials (Must be taken 4th semester).

Industrial Engineering SUNY Transfer Pathway

- Engineering Pathway Elective 1: [EG 275](#) Electronic Circuits 1 (Must be taken 4th semester).
- Engineering Pathway Elective 2: [EG 238](#) Strength of Materials (Must be taken 4th semester).
- Engineering Pathway Elective 3: [EG 239](#) Dynamics (Must be taken 4th semester).

This program complies with the State University General Education Requirement.

For more information, contact the Business, Health, Science and Technology Division at (315) 866-0300 or toll free 1-844-GO-4-HERK, ext. 8240.