

# ENGINEERING, ASSOCIATE IN SCIENCE

## Program Description

The Associate in Science Engineering degree program is designed to prepare engineering students to successfully transfer to baccalaureate engineering programs in the following areas: Biomechanical, Civil/Construction, Electrical, Industrial, Mechanical or General Engineering. Participants in the associate program will enroll in science, mathematics, engineering, and engineering technology courses that provide serious students with the knowledge and background necessary to take upper level courses in their chosen field of study as well as prepare them to participate in experiential learning opportunities in industry.

## Transfer Information

Students pursuing the Engineering degree can transfer into majors such as Civil/Environmental, Bioenvironmental, Mechanical, Electrical & Computing, Chemical, Biomedical, Industrial, and Materials Sciences Engineering. Many colleges offer opportunities for transfer both in and out of state. Admission is competitive and may require specific coursework to be completed prior to applying. Students are encouraged to work closely with OCC faculty and Advising Transfer Services. Students planning to transfer to a four-year institution in NJ can explore the "Transfer Programs" feature on NJ Transfer [www.njtransfer.org](http://www.njtransfer.org) (<http://www.njtransfer.org/>).

## Career Information

Engineering careers:

- Civil Engineer
- Chemical Engineer
- Drafting and Design Engineer

Engineering Credentials:

- Certified Manufacturing Engineer - Society of Manufacturing Engineers
- Certified Professional Traffic Operations Engineer - Institute of Transportation Engineers
- Pro/ENGINEER 2000i - Brainbench

This Associate of Science Degree is designed to provide students with the coursework needed to transfer to a four-year institutions and pursue a bachelor's degree. The curriculum provides students the knowledge and skills needed to pursue various career pathways in Engineering, while providing a credential beyond the high school degree. Students are also encouraged to acquire industry recognized credentials and certifications while they work on the associate's degree. Students are strongly encouraged to consult with OCC faculty and Career Services as they begin to explore career options. Students can also utilize Career Coach, a resource provided by OCC, to explore degree programs and corresponding careers <https://ocean.emsicc.com/>. For additional program information go to the following link: E (<https://www.ocean.edu/programs-and-courses/engineering-a-s/>)engineering Program (<https://www.ocean.edu/programs-and-courses/engineering-a-s/>)

Students are encouraged to keep track of degree requirements by using the "My Progress" screen on Student Planning. Student Planning can be accessed via logging into Ocean Connect.

## Program Requirements

First Semester		Credit Hours
ENGL 151	English I	3
ENGR 181	Graphics for Engineers (Foundational Course)	2
CSIT 124 or CSIT 163 or CSIT 165	Introduction to Programming or Introduction to Programming Using C++ or Programming I	3
CHEM 181	General Chemistry I	4
STSC 160	Student Success Seminar for Engineering Majors	2
<b>Credit Hours</b>		<b>14</b>
Second Semester		Credit Hours
ENGL 152	English II	3
MATH 265	Calculus I ( Students should take this course as soon as they are eligible to.)	4
PHYS 281	General Physics I	4
Humanities Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities">https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities</a> )		3
<b>Credit Hours</b>		<b>14</b>
Third Semester		Credit Hours
MATH 266	Calculus II	4
PHYS 282	General Physics II	4
Any ENGR Engineering course(s) ( <a href="https://catalog.ocean.edu/course-descriptions/engr/">https://catalog.ocean.edu/course-descriptions/engr/</a> ) <sup>1</sup>		6
Humanities or Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities">https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities</a> )		3
<b>Credit Hours</b>		<b>17</b>
Fourth Semester		Credit Hours
MATH 267	Calculus III	4
Any ENGR Engineering course(s) <sup>1</sup>		4
Engineering Technology/STEM Electives (p. ) <sup>1</sup>		4
Social Science Gen. Ed. Requirement ( <a href="https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities">https://catalog.ocean.edu/graduation-requirements-degree/approved-general-education-courses/#humanities</a> )		3
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>60</b>

## Engineering Technology/STEM Electives

Code	Title	Credit Hours
Any ENGT Engineering Technology course(s) ( <a href="https://catalog.ocean.edu/course-descriptions/engt/">https://catalog.ocean.edu/course-descriptions/engt/</a> )		
CHEM 182	General Chemistry II	4
CSIT 176	Computer Organization & Architecture	3
MATH 275	Linear Algebra	3
MATH 281	Differential Equations	4
PHYS 283	General Physics III	4

<sup>1</sup> Students should select electives relevant to their planned Engineering Bachelor's Degree concentration.