

# ENGINEERING

## Associate in Science

Professional opportunities for engineers continue to be strong in today's technological world. The first two years of college work are much the same for all branches of engineering. The program listed below is a good basic program for those who have not yet made their choice of an engineering college. Additional courses in the fields of engineering specialization and in general physics are advised to achieve junior status in the transfer college of choice. To ensure that the appropriate transfer courses are taken, students should discuss course sequence with a faculty advisor in the Engineering Studies Department during the first semester of study.

### FIRST SEMESTER

- 4 s.h. General Chemistry I (CHEM 181)
  - 4 s.h. General Physics I (PHYS 271)
  - 4 s.h. Calculus I (MATH 265)
  - 2 s.h. Graphics for Engineers (ENGR 181)
  - 3 s.h. English I (ENGL 151)
- 17 s.h.

### SECOND SEMESTER

- 4 s.h. General Chemistry II (CHEM 182)
  - 4 s.h. General Physics II (PHYS 272)
  - 4 s.h. Calculus II (MATH 266)
  - 3 s.h. Engineering Analysis (ENGR 124)
  - 3 s.h. English II (ENGL 152)
- 18 s.h.

### THIRD SEMESTER

- 4 s.h. Calculus III (MATH 267)
  - 3 s.h. Engineering Statics (ENGR 221)
  - 2-3 s.h. Health Requirement
  - 3 s.h. Social Science Elective
  - 3 s.h. Humanities Elective
  - 4 s.h. General Physics III (PHYS 273)
- 19-20 s.h.

### FOURTH SEMESTER

- 3 s.h. Differential Equations (MATH 280)
  - 3 s.h. Engineering Dynamics (ENGR 222)
  - 3 s.h. Humanities Elective
  - 3 s.h. Social Science Elective
  - 4 s.h. General Physics IV (PHYS 274)
- 16 s.h.

### Total Credits 70-71

For those students planning to transfer to NJIT under the Joint Admissions Program, see below for courses that should be taken as technical electives.

It is strongly recommended that students in the engineering program who intend to transfer to a four-year engineering program take eight credits of a technical elective in their third and fourth semester. Electrical, mechanical and aeronautical engineering majors planning to transfer as juniors into a four-year engineering program should take as their technical electives Electrical Engineering I (ENGR 251) and Electrical Engineering II (ENGR 252). These courses are sophomore level courses in the four-year programs cited.

For those students planning to transfer to NJIT under the Joint Admissions Program, the following courses should be taken as technical electives:

**ELECTRICAL ENGINEERING**

- 4 s.h. Electrical Engineering I (ENGR 251)
- 4 s.h. Electrical Engineering II (ENGR 252)
- 3 s.h. Logic and Microcomputer (ELET 152)

**CHEMICAL ENGINEERING**

- 4 s.h. Organic Chemistry I (CHEM 283)
- 3 s.h. Organic Chemistry II (CHEM 284)

**CIVIL ENGINEERING**

- 3 s.h. Surveying I (CVET 123)
- 3 s.h. Surveying II (CVET 124)
- 3 s.h. Construction Methods and Materials (CVET 161)

**COMPUTER ENGINEERING**

- 4 s.h. Electrical Engineering I (ENGR 251)
- 4 s.h. Electrical Engineering II (ENGR 252)
- 6 s.h. Computer Programming I (CSIT 171)  
and Computer Programming II (CSIT 172)\*

\*CSIT 171 and 172 may be waived for students with strong prior Pascal background at the approval of the Computer Studies faculty.

NOTE: Ocean County College cannot guarantee that these courses will have sufficient enrollment. Students may transfer to NJIT without completing all of these courses.