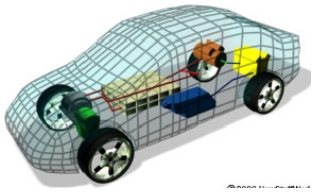
# Mercer County Community College
# Engineering Degree Programs

## Engineering Science


## Civil Engineering Technology


# Mercer County Community College Engineering Degree Programs

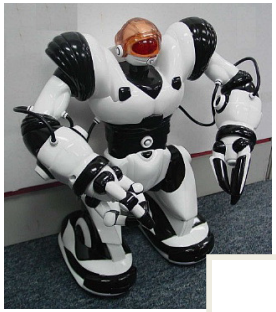
- A.S. in Engineering Science (Two Year Degree or Certificate)
  - Focuses on theory and conceptual design
  - Designed to transfer into any University offering a Bachelor's Degree in Engineering
  - Allows transfer into any Engineering Discipline (Civil, Mechanical, Electrical, etc.)
  - Can lead to licensure as a Professional Engineer
  - University Level Math and Science (Calculus)

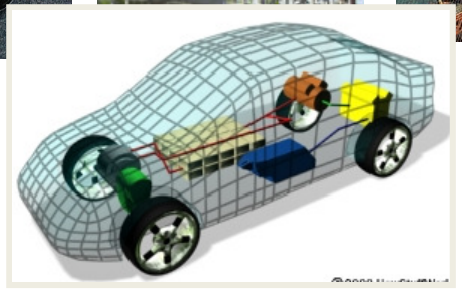
- A.A.S. in Civil Engineering Technology (Two Year Degree)
  - Focuses on design application and implementation (hands-on instruction)
  - Designed to transfer into Universities offering a Bachelor's Degree in Engineering Technology (New Jersey Institute of Technology, Temple University, Fairleigh Dickinson University, Penn State University)
  - Can lead to licensure as a Professional Civil Engineer
  - College Level Math and Science (Algebra & Trigonometry)

ABET. (2011). Engineering vs. engineering technology. Retrieved from http://www.abet.org/engineering-vs-engineering-technology/

# Engineering Science

(A certificate option is also available)



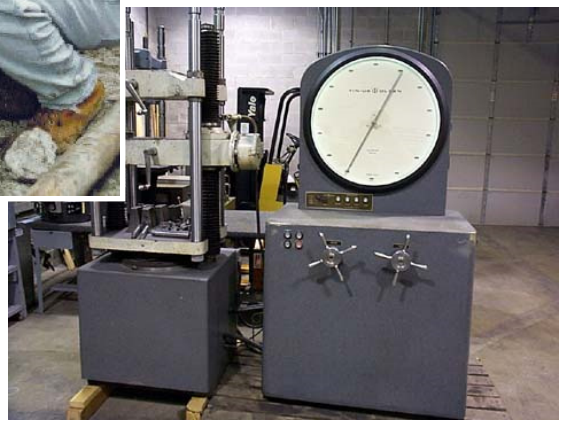



**Careers:**
The Engineering Science program prepares students to transfer to a baccalaureate degree in Engineering. Students develop a strong foundation in mathematics, physics, and chemistry, with emphasis on engineering applications and use of the computer as a problem-solving tool. *Can lead to licensure as a Professional Engineer.*

**Transfer Information:**
Students can transfer to a four-year ABET-accredited engineering program with majors such as civil, computer, electrical, industrial, mechanical, biomedical, chemical, environmental, or architectural engineering.

**Articulation Agreements:**
Mercer currently has articulation agreements with Rowan University, New Jersey Institute of Technology (NJIT), The College of New Jersey, Drexel University, and Rutgers University.

# Civil Engineering Technology



**Careers:**
Prepares students for employment in field and office positions with architects, engineers, and government agencies as engineering aides; construction, highway or materials technicians; transit operators; or estimators. *Also can lead to licensure as a Professional Civil Engineer.*

**Transfer Information:**
Graduates wishing to pursue studies leading to a bachelor's degree can transfer into the junior year at many institutions. Temple University, New Jersey Institute of Technology (NJIT), Pennsylvania State University, and Fairleigh Dickinson University are among the institutions accepting Mercer graduates.

**Articulation Agreements:**
Mercer currently has an articulation agreement with Fairleigh Dickinson University, and has agreements pending with Temple University, New Jersey Institute of Technology (NJIT), and Pennsylvania State University.

# Engineering versus Engineering Technology

| Program | Engineering | Engineering Technology |
|---|---|---|
| Associate Degree | Associate in Science | Associate in Applied Science |
| | ⇩ | ⇩ |
| Bachelor's Degree | B.S. Engineering | B.S. Engineering Technology |
| | Any University offering a Bachelor of Science in Engineering | University offering a Bachelor of Science in Engineering Technology |
| | ⇩ | ⇩ |
| Engineering Exam 1 | E.I.T. Exam | E.I.T. Exam |
| Work Experience | 4 Years Experience under supervision of Professional Engineer | 6 Years Experience under supervision of Professional Engineer |
| Engineering Exam 2 | P.E. Exam | P.E. Exam |
| Professional Engineer | Professional Engineer | Professional Engineer |

Professional Engineers and Land Surveyors Laws. (2011). Retrieved from http://www.state.nj.us/lps/ca/laws/engineers_law.pdf

# Engineering Career Descriptions

| Career Name | Career Description |
|---|---|
| Civil Engineer | Professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like roads, bridges, canals, dams, and buildings. |
| Computer Engineer | Discipline that integrates several fields of electrical engineering and computer science required to develop computer hardware and software. |
| Electrical Engineer | A field of engineering that generally deals with the study and application of electricity, electronics, and electromagnetism. |
| Industrial Engineer | Branch of engineering dealing with the optimization of complex processes or systems. |
| Mechanical Engineer | Discipline of engineering that applies the principles of engineering, physics and materials science for analysis, design, manufacturing, and maintenance of mechanical systems. |
| Biomedical Engineer | The application of engineering principles and design concepts to medicine and biology for healthcare purposes (e.g. diagnostic or therapeutic). |
| Chemical Engineer | Profession in which one works principally in the chemical industry to convert basic raw materials into a variety of products, and deals with the design and operation of plants and equipment to perform such work. |
| Environmental Engineer | The integration of science and engineering principles to improve the natural environment, to provide healthy water, air, and land for human habitation and for other organisms, and to remediate pollution sites. |
| Architectural Engineer | Applies the knowledge and skills of broader engineering disciplines to the design, construction, operation, maintenance, and renovation of buildings and their component systems while paying careful attention to their effects on the surrounding environment. |