

## **QUESTIONS AND ANSWERS ABOUT ENGINEERING-SCIENCE AT COMMUNITY COLLEGE OF PHILADELPHIA**

1. What are the basic entry requirements for your program?

High school students planning a career in engineering or science should study as much mathematics as possible including geometry, two years of algebra, trigonometry, analytic geometry, and some concepts of functions. Prospective students should also take a year of chemistry and a year of physics.

If a student is lacking these skills he or she will still be accepted into the College (Community College of Philadelphia has an open admissions policy) but the student will be enrolled in Associate in Liberal Arts with an Engineering interest and be advised to take at least MATH 161-162 and Physics 105 before attempting the Engineering-Science curriculum.

2. What grade point average (GPA) must I have?

The College accepts students with a very low GPA in the hope that through make up courses, tutorials and will power, the student will reach the level of proficiency required in the Engineering-Science curriculum. A minimum of a C grade for individual courses and a GPA of 2.5 or more is required for transfer.

3. Can I take courses in your program at night?

Yes. However, choice of courses is limited at night. Planning with a Departmental advisor is helpful.

4. Is summer school required?

No. But summer courses are available.

5. How long does it take to complete the program?

The Engineering-Science program at Community College of Philadelphia can be completed in four semesters (two years), after which the student will be eligible to receive an Associate in Science degree. Students who enter the College with deficiencies will take longer to graduate.

6. Can I transfer credits to a four-year college?

Yes. The Engineering-Science program at Community College of Philadelphia has an excellent reputation. Our courses are accepted by universities and engineering schools worldwide.

7. Can I get a Bachelor's degree in Engineering?

Yes. It must be remembered that a Bachelor's degree requires from 130 to 140 credits. The Associates degree offered by the College requires only 68 – 70 credits. This means that a student will have to study at least two more years at a transfer institution.

## QUESTIONS AND ANSWERS ABOUT ENGINEERING-SCIENCE AT COMMUNITY COLLEGE OF PHILADELPHIA

8a. What kinds of jobs can I apply for after receiving an engineering degree?

Most of our students go to get degrees in Electrical or Mechanical Engineering. The field of engineering is as varied and interrelated as our industries. The following is a partial list given in alphabetical order: Aeronautics, Aerospace, Architecture, Biomedical, Chemical, Civil, Computer, Defense Systems, Electrical, Electronic, Environmental, Energy, Mechanical, Nuclear.

8b. What are the entry level salaries for jobs in engineering?

\$50,000 - \$60,000. See [www.salary.com](http://www.salary.com) for currently available jobs, job descriptions and salaries.

9. What are the advantages of taking the first two years of a four-year program at Community College of Philadelphia?

The advantages are many:

1. Teaching is our only vocation and we try hard: small classes, instructors are accessible, excellent support services, counseling, free tutoring and mentoring.
2. Financial advantage: cost to a resident of Philadelphia is less than \$3500 a year, which is \$5,000 to \$15,000 less than what some schools charge for the same education, an obvious advantage for a paying student. For a student receiving a loan that means \$10,000 to \$30,000 less to repay. By saving that money a student may be able to afford graduate school.

10. What kind of job can a student get if he/she stops after the two year Associate degree?

Most students who take the Engineering-Science curriculum are interested in transfer to a four year university or college. However, there are students who take our curriculum to: discover field of work in which they might be interested; improve knowledge and skills for the currently held job or improve chances for a raise or promotion and at the same time to keep an open option for the future transfer to a four year college.

Some of our alumni who chose not to transfer immediately to another college reported to work as: Chief production engineer, Process engineer, Assistant project engineer, Systems planning and electrical engineer, Electronics technician, Civil engineer technician, Supply technician, Maintenance engineer, Financial officer, Correctional officer.

Their salaries vary from \$11,000 to \$40,000 a year.

11. I have applied to the College but have not heard from the Admissions Office. Who do I call?

Community College of Philadelphia is a big school, one of the largest institutions of higher education in the city. Although we do have an open admissions policy, processing and placement takes time. If you are interested in engineering, you may call the Physics Department office at 215 751-8417. The Department Chair can assist you with registration.

12. What is the difference between engineering science and engineering technology?

### THE ENGINEERING TEAM

The following information is intended to help prospective students interested in engineering related careers to better understand the wide categories of activities and the relationship of educational requirements, job duties and responsibilities of each member of the engineering team.

ENGINEERING is the art of looking at problems and finding solutions.

ENGINEERING TECHNOLOGY is the application and implementation of established engineering and scientific concepts.

CHARACTERISTICS	ENGINEER	ENGINEERING TECHNOLOGIST	ENGINEERING TECHNICIAN
NATURE OF WORK	Translates findings of science into useable form with designs. Develops new procedures, methods and devices useful to man. Innovates.	Specialist in translating conceptual ideas and scientific concepts into functional systems. Implements.	Assists design engineers and technologists. Performs specific tasks under direct supervision which involves repetitive or manipulative skills. One who does.
SKILLS INVOLVED	Primarily utilizes theoretical and abstract concepts and skills (90% theoretical – 10% manual).	Less theoretical and mathematical but more practice-oriented (70% theoretical – 30% manual).	Predominantly manual skills utilized. (30% theoretical – 70% manual).
LEVELS OF EDUCATION	B.S. degree in Engineering: 4 years – approximately 137 s.h. at a university. Master's in Engineering: 5 years. Doctor's degree.	B.S. degree in Engineering Technology: 4 years – approximately 124 s.h. at a college of technology or university. Master's in Technology.	Associate in Technology/Science: 2 years – approximately 60-68 s.h. at a technical institute or community college.
CURRICULUM	Highly mathematical and scientific in content. Emphasis primarily on theory with little laboratory experience.	Utilizes higher mathematics and scientific concepts to a lesser degree. More specialized with emphasis on laboratory experiences.	Technical mathematics and concepts with great emphasis on laboratory procedures and experiences. Limited theoretical content.
AREAS OF RESPONSIBILITY	Research, development, project planning, designing, facilities operation and maintenance, regulation and enforcement, teaching, construction management, equipment selection and specifications.	Production, manufacturing production control, quality control and assurance, sub-system and detail designing. Fabrication, surveying, inspection, field service representative.	Testing, measuring, repairing, maintenance, servicing, model building, preparation of drawings and detail plans. Computing and plotting data.