Pittsburg State University
COLLEGE OF TECHNOLOGY

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Engineering Technology and Engineering- *A Comparison*

Engineering Technology and Engineering- What is the difference? This question is asked frequently by graduating high school students and transfer students who are considering the field of engineering as a career. Engineering Technology is practice-oriented, stressing applications of engineering science and design, focusing on hands on learning within the engineering lab. On the other hand, Engineering is science-oriented studies in stressing mathematics, engineering design and development.

The student must understand that the field of engineering comprises a broad spectrum of occupations requiring different abilities, interests and skills. Both Engineering Technology and Engineering are viable professional paths that lead to rewarding and successful careers. It is important for students to access carefully their abilities, interests and personal career in order to choose which path best suits her/his abilities and interests.

The comparison that follows further outlines the differences and similarities between Engineering Technology and Engineering paths.

Obtaining a degree at Pittsburg State University is as follows; Bachelor of Science in Engineering Technology with degree choices of Plastics, Mechanical, Manufacturing, or Electronics Engineering Technology.

Engineering Technology	***Engineering***
Degrees Obtained	
Bachelor of Science in Engineering Technology	Bachelor of Science in Engineering
Program Objectives	
To develop processing and design abilities in order to design and manufacture products to meet current and future needs of society. Focused more on specific technical problems and solutions.	To provide knowledge necessary to design and manufacture products and systems needed to meet customer needs and future needs of society. Focused more on conceptual objectives.
Program Graduate Characteristics	
A "doer" or implementer- one who is able to apply their knowledge of mathematics, natural and engineering sciences, current engineering practices, and an understanding of economic principles to the solution of design problems and to the operation or testing of engineering and manufacturing systems. The ETECH graduate can apply established procedures which utilize the current state-of-the-art technology.	***An innovator***- one who is able to interweave a knowledge of advanced mathematics, natural and engineering sciences, and engineering principles and practices with considerations of economics, social, environmental, and ethical issues to create new systems and products. The engineering graduate can develop new procedures to advance technology.
Program Duration	
Four years; transfer students may take longer if basic math and science classes were not completed.	Four to five years with the current trend in Engineering Schools
Courses in Major Field	
Students begin major field of study in freshmen year	Students usually do not begin major field of study until the latter part of their sophomore/ junior year

New Graduate Career Aspirations	
The ETECH Graduate entering industry would most likely have a position in product design, development, testing, technical operations, process engineering, or technical sales and services	The engineering graduate entering industry would most likely have a position in conceptual design, system engineering, manufacturing, or product research and development
Career Mobility	
The majority of engineering technologists start as process and design engineers and have the ability to move into management positions	Many engineers move into design and production roles and have the ability to move into management positions
Emphasis of Technical Courses	
Technology courses stress the application of technical knowledge and methods in the solution of routine engineering problems	Engineering courses stress the underlying theory of the subject matter
Laboratory/Manufacturing Skill Set	
An integral component of ETECH programs, including the study of practical design solutions, manufacturing and evaluation techniques for industrial type problems. A wide variety of equipment is available for PSU students in Manufacturing, Mechanical, Plastics, and Electronic Laboratories	Laboratory courses provide and intensive overview of experimental methods and related underlying theories of manufacturing
Internship Availability	
Readily available for all emphasis in the Engineering Technology Program. PSU offers a Company Day event with 100+ recruiting companies in attendance in the Fall semester, specifically for students to obtain an internship or full time position	Readily available internships for all emphasis in Engineering Studies
Professional Certifications	
Allowed to take the fundamentals of Engineering Test in certain states	More available to take Fundamentals of Engineering Test
Academic Terminology	
Graduate referred to as Engineers or Engineering Technologists	Graduates referred to as Engineers
Graduate Education Opportunities	
Pittsburg State University offers Masters in Engineering Technology with emphasis in the following; Mechanical, Manufacturing, Plastics, Electronics, and Research/Development/Thesis	Graduate study in engineering as well as others is available for qualified students having a B.S. in Engineering
National Accreditation	
Pittsburg State University is Accredited by the Accreditation Board for Engineering and Technology- Technology Accreditation Commission (TAC of ABET)	Accredited by the Accreditation Board for Engineering and Technology- Engineering Accreditation Commission (EAC of ABET)