Pittsburg State University
COLLEGE OF TECHNOLOGY

Department of Engineering Technology
W215 Kansas Technology Center
1701 South Broadway • Pittsburg, KS 66762-7565
620-235-4350 fax: 620-235-4004
www.pittstate.edu/etech

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 laboratory. On the other hand, Engineering is science-oriented and stresses mathematics, engineering design and development areas.

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 carefully assess their abilities, interests and personal career aspirations in order to choose which path best suit her/his abilities and interests.

Degrees available at Pittsburg State University include: Bachelor of Science in Engineering Technology with degree choices of Electronics, Manufacturing, Mechanical or Plastics Engineering Technology. The comparison that follows further outlines the differences and similarities between the Engineering Technology and Engineering paths.

ENGINEERING TECHNOLOGY	ENGINEERING
DEGREES OBTAINED	
Bachelor of Science in Engineering Technology	Bachelor of Science in Engineering
PROGRAM OBJECTIVES	
To develop practical and project 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/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
ACADEMIC TERMINOLOGY	
Graduate referred to as Engineers or Engineering Technologists	Graduates referred to as Engineers

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

ETECH courses stress the application of technical knowledge and methods in the solution of practiced 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 techniques, and evaluation techniques for industrial type problems	Laboratory courses provide and intensive overview of experimental methods and related underlying theories of manufacturing

INDUSTRY FUNCTIONALITY

The ETECH graduate is prepared to immediately begin technical assignments in their specialty area since programs stress current industrial practices and design procedures. They “hit the ground running” in the words of many employers.	The engineering graduate typically requires a period of "internship" since engineering programs stress fundamental concepts over applications. They are often tasked with solving broad, analytical and open-ended technical problems.

INTERNSHIP AVAILABILITY

Readily available for all programs, a Company Day event with 100+ recruiting companies specifically for students to obtain an internship or full time position is held annually	Readily available internships for all emphasis in Engineering Studies

PROFESSIONAL CERTIFICATIONS

Eligible to take the fundamentals of Engineering Exam in many states as part of a process to become a registered professional engineer	Eligible to become a registered professional engineer by a process of examination and documentation of industry experiences.

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- Engineering Technology Accreditation Commission (ETAC of ABET)	Accredited by the Accreditation Board for Engineering and Technology- Engineering Accreditation Commission (EAC of ABET)