APPLIED GEOLOGY

applied geology refers to the use of **geology** to solve, or aid in solving, human problems in which **geological** factors play a part. The problems may be economic, social, political, or cultural in origin.

Unlike traditional engineering disciplines, engineering science/physics is not necessarily confined to a particular branch of science, engineering or physics. Instead, engineering science/physics is meant to provide a more thorough grounding in applied physics for a selected specialty such as optics, quantum physics, materials science, applied mechanics, electronics, nanotechnology, microfabrication, microelectronics, computing, photonics, mechanical engineering, electrical engineering, nuclear engineering, biophysics, control theory, aerodynamics, energy, solid-state physics, etc. It is the discipline devoted to creating and optimizing engineering solutions through enhanced understanding and integrated application of mathematical, scientific, statistical, and engineering principles. The discipline is also meant for cross-functionality and bridges the gap between theoretical science and practical engineering with emphasis in research and development, design, and analysis.

It is notable that in many languages the term for "engineering physics" would be directly translated into English as "technical physics". In some countries, both what would be translated as "engineering physics" and what would be translated as "technical physics" are disciplines leading to academic degrees, with the former specializing in nuclear power research, and the latter closer to engineering physics.[5] In some institutions, an engineering (or applied) physics major is a discipline or specialization within the scope of engineering science, or applied science.[6][7][8][*improper synthesis?*]

In many universities, engineering science programs may be offered at the levels of B.Tech, B.Sc., M.Sc. and Ph.D. Usually, a core of basic and advanced courses in mathematics, physics, chemistry, and biology forms the foundation of the curriculum, while typical elective areas may include fluid dynamics, quantum physics, economics, plasma physics, relativity, solid mechanics, operations research, quantitative finance, information technology and engineering, dynamical systems, bioengineering, environmental engineering, computational engineering, engineering mathematics and statistics, solid-state devices, materials science, electromagnetism, nanoscience, nanotechnology, energy, and optics.