

Some Branches of Physics

Broadly, physics can be separated into two areas: experimental and theoretical. Since physics is about the study of the physical universe, physicists can be doing either experimental or theoretical work in any of a number of subject areas. Some examples are listed below.

Acoustics: The study of sound, especially of its generation, transmission, and reception.

Astrophysics: A branch of astronomy concerned with the study of the physical and chemical properties of material objects and energy sources situated outside the boundaries of the earth's atmosphere.

Atomic and Molecular Physics: The study of the properties of matter at the atomic or molecular scale. The study of the structure of atoms and molecules and the forces that act between positive nuclei and the negative electrons in orbits around nuclei or the interaction of electrons from one atom with those from another.

Cosmology: A branch of astronomy focused on the study of the origin, structure, and evolution in space and time of the physical universe.

Dynamics: A chapter of mechanics dealing with the behavior of material objects under the action of external forces.

Electricity: The study of the behavior of electric charges and the fields they create in their surrounding space.

Electrodynamics: The study of the relations between electrical, magnetic, and mechanical phenomena. The study of the interactions between electric currents and magnetic fields created by other electric currents.

Field Theory: A classical or quantum mechanical theoretical study of fields, based on the knowledge of the field equations, or of the commutation rules satisfied by the field operators.

Fluid Mechanics: The study of the properties and behavior of matter in fluid (gas or liquid) state.