Types of Engineering

Traditional Engineering Disciplines

Civil Engineering: Includes Structural, Transportation, Environmental, Geotechnical, Water Resources, and Construction Engineering.

Mechanical Engineering: Encompasses Automotive, Aerospace, Robotics, Thermal and Fluids, Manufacturing, and Biomechanical Engineering.

Electrical Engineering: Covers Power, Control, Telecommunications, Electronic, Computer Engineering, and Signal Processing.

Chemical Engineering: Involves Process, Biochemical, Materials, Environmental, and Molecular Engineering.

Interdisciplinary Engineering Disciplines

Computer and Software Engineering: Focuses on Software, Hardware, Systems, Cybersecurity, Data, and AI and Machine Learning Engineering.

Biomedical Engineering: Includes Bioinstrumentation, Biomaterials, Biomechanics, Clinical, Rehabilitation, and Cellular, Tissue, and Genetic Engineering.

Environmental Engineering: Encompasses Sustainable, Ecological, Water Quality, Air Pollution Control, and Waste Management and Treatment.

Materials Science and Engineering: Covers Nanotechnology, Polymer, Metallurgical, Ceramics, and

Types of Engineering

Biomaterials Engineering.

Emerging and Future-oriented Engineering Disciplines

Energy Engineering: Includes Renewable Energy, Nuclear Engineering, Energy Storage Technologies, and Smart Grid Technology.

Nanotechnology and Nanoelectronics: Focuses on Nanofabrication, Nanomaterials, and Quantum Engineering.

Robotics and Autonomous Systems: Includes Humanoid Robotics, Unmanned Aerial Vehicles (Drones), and Autonomous Vehicle Systems.

Space Engineering and Technology: Covers Satellite Engineering, Spacecraft Design and Engineering, and Planetary Sciences and Engineering.

Sustainability and Green Engineering: Focuses on Green Building Design, Sustainable Manufacturing, and Climate Engineering.

Additional Engineering Disciplines

Bioengineering: Fits under Biomedical Engineering and Interdisciplinary Engineering Disciplines.

Industrial Engineering: Can be considered under Traditional or Interdisciplinary Engineering Disciplines.

Types of Engineering

Agricultural Engineering: Best fits under Environmental Engineering or Interdisciplinary Engineering Disciplines.

Marine Engineering: Fits under Traditional Engineering Disciplines, specifically within Mechanical Engineering.

Architectural Engineering: Categorized under Civil Engineering in Traditional Engineering Disciplines.

Mechatronics Engineering: Falls under Interdisciplinary Engineering Disciplines.

Petroleum Engineering: A specialized area within Chemical Engineering and Traditional Engineering Disciplines.

Mining Engineering: Falls under Traditional Engineering Disciplines, related to Geological and Environmental Engineering.

Pharmaceutical Engineering: Categorized under Chemical Engineering and Biomedical Engineering.

Biomechanical: A subset of Biomedical Engineering, fitting in Traditional and Interdisciplinary Engineering Disciplines.

Textile Engineering: Can be categorized under both Traditional and Interdisciplinary Engineering Disciplines.