Engineering Branches		
S.No	**Branch**	**Definition**
1	Architectural Engineering	Architectural engineers work in the construction, planning, and design phase of projects. Their focus is on building structure and interior design. This includes: Heating, Ventilation, Air Conditioning, Electrical, Fire protection, Lighting, Plumbing and other systems specific to the the project. In some areas natural disasters such as earthquakes and hurricanes have special consideration.
2	Mechanical Engineering	A Mechanical Engineering Degree involves the design of mechanical systems. These systems assist industries such as: manufacturing, aeronautics, nanotechnology, nuclear power production, heating and cooling. A primary focus is on thermodynamics, structural analysis, materials science, and kinematics. This is arguably the broadest of all engineering degrees available today and takes in a wide range of engineering disciplines.
3	Aerospace Engineering	An Aerospace Engineering Degree involves the study of air and space travel. This might include military aircraft design and development, along with commercial airline design and satellite technology. The terms Aerospace and Aeronautical are both often used interchangeably, yet there are key differences between the two. Aeronautical Engineering relates to craft that remain in our atmosphere, while Aerospace Engineering also refers to aircraft that venture outside our atmosphere as well.
4	Aeronautical Engineering	A division of aerospace engineering, aeronautical engineering focuses on applying physics, mathematics and other disciplines in order to construct aircraft. Aeronautical engineers work to make sure propulsion systems operate efficiently and that aircraft's aerodynamic performance is sufficient.
5	Biomedical Engineering	Biomedical engineering combines the study of medicine and biology. Biomedical Engineers apply their design skills to biological and medical sciences. They do this to assist in advancements in healthcare treatment technology. They develop and maintain diagnostic devices. Devices that include EEGs, MRIs, and other imaging machines. Physicians use these machines to diagnosis their patients' medical problems. This is a fast moving industry and while challenging can be a rewarding career path to take.
6	Biomechanical Engineering	Biomechanical Engineering is the study of organisms and mechanics and how the two solve problems in combination. This is a growing industry and practical applications include environmental challenges such as waste control and keeping our waterways free from pollution. It shares close ties with Biomedical Engineering and Agricultural Engineering.

7	Automotive Engineering	Automotive engineering involves the design and production of vehicles. The automotive industry is hugely diverse and requires engineers to work in areas such as mechanical design, performance, manufacturing, electrical engineering and systems management.
8	Civil Engineering	Civil Engineering involves the development of infrastructure such as buildings, railways, roads construction, bridges and general construction project management. Civil Engineers also play an important role in rebuilding projects, such as in the event of a natural disaster. Civil Engineers may work in the private or public sector at any level. This is a very broad engineering degree.
9	Structural Engineering	Structural engineering is a specific branch of civil engineering, and specializes in the design of different structures, including houses, commercial buildings, art museums, stores, and more. It is important for structural engineers to understand the construction of buildings and the effects of natural factors such as erosion, corrosion, wind, and water to ensure buildings and structures are safe for a very long period of time. At some universities, structural engineering is a concentration offered within a civil engineering degree
10	Electrical Engineering	An Electrical Engineering Degree involves the study of energy. Energy is available in various forms such as electrical, hydro and natural sources such as wind and solar energy. An Electrical Engineer develops technologies to assist with the practical application of such energies. Electrical Engineers design components for electronic equipment, communications systems, power grids, automobiles, and more.
11	Computer Engineering	Another industry that continues to expand is of course the Information Technology (IT) industry. This involves both computer sciences and electrical engineering. Successful graduates may find themselves in Telecommunications, Networking, Software Application Development, or Manufacturing. This type of degree has good future potential as most industries rely on information technology.
12	Electronics Engineering	Technology and specifically, electronics, have changed the way most of the world lives every day. From the revolutionary computer to the latest mobile phone technology that fits in your pocket, we all use electronics every single day. Electronics engineers are needed to design and build electronic equipment. Most electronics engineers work with circuits, switchboards, and other electronic configurations to design and build these devices.

13	Mechatronics Engineering	A blend of mechanical engineering and electronics engineering, Mechatronics, or Mechatronics Engineering, is an emerging area for hybrid engineers. Nearly all mechanical equipment in this day and age is operated with a mix of electronics and software, all based on computers and technology. Mechatronics engineers help bridge that gap, and have intrinsic knowledge of electrical, electronics, and mechanical engineering. Some more experienced Mechatronics Engineers also have computer, hardware, and software engineering experience as well.
14	Robotics Engineering	A robotics engineering degree has a primary focus on automation and the use of machines to assist with repetitive tasks such as those found in manufacturing. Robotics engineers will typically design robotic technology and develop maintenance systems to help achieve optimal efficiency. this is an area with expected growth of up to 15% in the next five years.
15	Microelectronic Engineering	If you have an interest in electronics a Microelectronic Engineering degree might be of interest. Microelectronics is a subset of Electrical Engineering with a focus on the word 'Micro'. Microelectronic Engineers specialize in the development and design of small electrical devices. Used in a wide range of industrial applications. As we move away from bulky electronic devices such as the first mobile phones and desktop computers. We develop smaller more convenient electronic devices. As a result the demand for microelectronic engineers is high. Microelectronic engineers also assist in the technical writing aspect of a project. As well as perform tests to verify product conformance.
16	Chemical Engineering	As the name implies, Chemical Engineering is the practical application of chemistry. This type of engineering degree involves technology that utilizes chemical reactions to solve problems. A chemical engineer creates new products, including: Cosmetics, foods, pharmaceuticals, beverages, and cleaners from raw chemicals. this is a very broad engineering degree and allows for a number of different forms of employment. It is also one of the most challenging degrees available.
17	Environmental Engineering	One of the most popular kinds of engineering degree. Environmental Engineering involves the study of science and engineering to improve our environment. This includes the air we breathe, food we consume, and water. Environmental Engineers also study the environmental impact humans have on the planet, including pollution as a result of development and manufacturing processes. Environmental Engineering is considered a subset of Civil Engineering.

18	Materials Science Engineering	A Materials Science engineering degree is a study of materials and why they behave a specific way or react to things in a certain way. This includes plastics, ceramics and polymers. Everything around us is made up of materials, as we evolve there is an increasing demand for materials which are stronger, more environmentally friendly and lighter. Employment opportunities include research positions along with industry placements. Materials Science Engineering is a very hands on, practical degree and graduates are in high demand.
19	Agricultural Engineering	An Agricultural engineering degree involves learning how to apply engineering to the agricultural industry to assist with area of farming including: soil conservation and salinity, ground preparation, irrigation, farm machinery design and production and helping develop more effective harvest techniques. Employment generally involves working in a consulting capacity or employed in a related industry such as machinery design and production.
20	Paper Engineering	Paper Engineering is a specialization of chemical engineering and involves understanding the processes involved (chemical and mechanical) of paper production. This type of degree involves both research based work and practical assessment which is typically lab work. Students learn the principles behind molecular science, wood pulping and fluid mechanics to name just a few.
21	Industrial Engineering	Industrial engineers work for manufacturing companies, or as consultants to the manufacturing industry. The role of an Industrial engineer is to increase productivity and reduce waste and spending. Many new start-ups will hire an Industrial engineer to help make their business more efficient. Industrial engineers are also hired to test employee productivity and in house processes. Which will improve the efficiency of the company.
22	Systems Engineering	Systems engineering is a multi disciplined engineering degree. While it has has evolved over time as systems have evolved with technology and greater efficiency it's primary focus is on developing and improving upon existing systems. Systems engineers develop systems for workplace efficiency, risk management, measuring and refinement.
23	Manufacturing Engineering	A Manufacturing Engineering degree focuses on manufacturing processes and machinery and quality control systems. Manufacturing makes up over 20% of America's GDP and over 15% of our employment. As a result it's important we refine our manufacturing processes for increased efficiency. This is a very broad discipline and can overlap other types of engineering studies including robotics and systems engineering. Students will study diverse areas of engineering such as: Material science, manufacturing technology and automation (robotics) along with fluid mechanics and hydraulics.

24	Petroleum Engineering	A petroleum engineer handles the extraction of oil and gas from beneath the earth. They are also involved in developing new extraction methods and technologies including new methods that are more efficient and less damaging to the environment. Petroleum Engineering is one of the highest paid engineering positions available. Petroleum engineers play a significant role in locating reservoirs beneath the earth's surface for gas and oil companies.
25	Geological Engineering	Geological engineers combine engineering and research skills for mining and construction projects. Construction firms hire Geological engineers. They assess ground conditions and other natural hazards (earthquakes, etc.) before starting construction. With declining natural resources available, Geological engineers are in high demand. Geological Engineers work in the private sector or governmental agencies
26	Nuclear Engineering	Nuclear engineers are at the core of development for the ever growing use of nuclear power. The medical field has become the largest beneficiary of many new developments. Nuclear engineers work for consulting firms, power plants, and government agencies. As expected, the demand for nuclear engineers in nuclear power plants is high. The design, implementation, and maintenance of the plant is one aspect of their duties. Many Nuclear Engineers also move into supervision and management.
27	Marine Engineering	A Marine engineer applies knowledge to the development of ocean technologies. Technologies include fixed and floating structures, such as pontoons and jetties, propulsion and power generation for boats, ships and other marine transportation, and developing new forms of energy that are reliant on our oceans including wind farms.
28	Nanotechnology Engineering	Nano essentially refers to a billionth e.g. one nanometer is 1 billionth of a meter or between 2 and 20 atoms in length. Nanotechnology is the study of extremely small elements such as molecules and single atoms and the production of extremely small devices. Nanotechnology is expected to be as important to us as the industrial revolution over time as it has the potential to help solve some of the world's major problems including health and environmental concerns. Nanotechnology is a very specialised discipline that can be applied to a very broad range of industries and fields.
29	Mining Engineering	A mining Engineering degree involves studying the extraction of mined resources from the earth in a safe, economical and environmentally responsible manner. Engineers are involved in the mining industry in areas such as: machinery production and design, mine design, mine construction. Mining Engineers may work closely with Geologists to discover the most effective extraction techniques and can be employed on site or work remotely.

30	Metallurgical Engineering	A Metallurgical Engineering Degree involves the study of engineering principles to extract and in many cases purify metals and other minerals from ore. Metallurgical Engineers develop and design processing techniques and machinery and have to take into account the environmental impact of mineral processing.
31	Geomatics Engineering	A Geomatics Engineering degree involves the study of precise measurement for mapping the earth's environment using advanced equipment and techniques. Geomatics Engineers play an important role in planning future infrastructure and often work with large amounts of data to form digital replications of terrain and develop 3D maps. This also includes the study of GPS technology. There is a shortage of qualified Geomatics professionals and as a result they are in great demand.
32	Applied engineering	The field concerned with the application of management, design, and technical skills for the design and integration of systems, the execution of new product designs, the improvement of manufacturing processes, and the management and direction of physical and/or technical functions of a firm or organization. Applied engineering degreed programs typically include instruction in basic engineering principles, project management, industrial processes, systems integration and control, quality control, and statistics