Chemistry involves applying scientific principles to the study of matter and learning how chemical elements react to form new substances. Students majoring in life science or physical science are are required to take a minimum of inorganic and organic chemistry courses. Many majors require at least one chemistry class. The study of chemistry can help nonscience majors develop proficient analytical and critical thinking skills transferable to careers in law, business and teaching. Introductory chemistry classes are available as general education electives for nonscience majors.

Science and Technology Majors

Chemistry is a core requirement of majors related to science and technology. The 2011 mean average salary for a chemist was $69,760, as reported by O*NET Online. Examples of majors and minors in the field of science and technology that require chemistry include: biology, biochemistry, biomedical science, biophysics, biotechnology, cell biology, chemistry, cytogenetics, cytotechnology, earth science, ecology, entomology, food science, forestry, environmental science, epidemiology, forensic science, genetics, geoscience, horticulture, meteorology, microbiology, molecular biology, oceanography, physics, physiology, science education, soil science, toxicology, water resources and wildlife management zoology.

Engineering Majors

Depending on the degree requirements of the school, chemistry is either required or strongly recommended for students studying engineering. Chemistry deepens understanding of science and math, which is useful for engineers who design buildings, goods and services that improve quality of life. Examples of majors or minors in the field of engineering that require or strongly recommend chemistry classes include: aerospace engineering, bioengineering, chemical engineering, civil engineering, computer engineering, construction engineering, electrical engineering, environmental engineering, industrial engineering, logistical engineering and mechanical engineering.

Health Related Majors

Health care professionals must have a strong science background. Courses in chemistry provide an understanding of human physiology and the types of medications that can most effectively treat disease and other health conditions. Completion of chemistry coursework is a requirement of students who are preparing for careers in medicine, nursing, dentistry, optometry, pharmacy, physical therapy, mortuary science and veterinary medicine. Completion of courses in biology, chemistry and physics is a prerequisite for admission into specialized schools of medicine and health care. A chemistry major is excellent preparation for a career in pharmacy. In 2010 the Bureau of Labor Statistics estimated that the demand for pharmacists is expected to grow by 25 percent in the next 10 years.

Applied Science Majors

Majors in health related areas often require or strongly recommend an understanding of basic chemistry involving one or two semesters of introductory or general chemistry. Knowledge of chemistry contributes to an understanding of the human body and how the scientific method can be applied to everyday problem-solving. Examples of majors that incorporate applied science include elementary education, dental hygiene, radiologic technology and occupational therapy.