The first graduate of an engineering program in America was a civil engineer from the University of North Carolina in 1798. By 1853, six institutions offered engineering programs, all of which are in existence today. Currently there are 350 institutions that offer at least one accredited engineering degree program.

Undergraduate enrollment in engineering programs in 1853 was about 250. At the present time, nearly 340,000 engineering students are enrolled, about 3% of the total undergraduate enrollment. Engineering undergraduate enrollment has been in a downward trend since 1983 due primarily to demographics — the decline in the 18 to 24 year age group and an increasing number of underrepresented minorities in America. Underrepresented minorities are defined as African Americans, Hispanic Americans, and Native Americans. There has also been a general decline in the interest in science and technology of our college-bound students. This current downward enrollment trend has come to an end since 1991 enrollments are increasing. However, engineering enrollments are very susceptible to influences other than demographics. World situations and economic conditions seem to have a major impact on enrollment levels and fluctuations occur quite regularly.

At the graduate level, prior to 1890 there were six institutions that offered advanced degrees in engineering. It was not until significant developments in the applications of science, which took place in the mid-1900’s, did graduate programs flourish. Currently, nearly 43,000 full-time masters and 30,000 doctoral level graduate students are enrolled. Another 45,000 graduate students attend on a part-time basis, and the number continues to grow. Graduate school enrollment levels have been increased consistently during this time period.

The ethnic/race mix of the student population has changed significantly during the last twenty years. In 1974, 5% of the undergraduate engineering students were women. Today, nearly 18% are women. A similar trend is occurring at the graduate level. Underrepresented minorities now represent nearly 7% of engineering enrollment, up from 1% in the early 1970’s.

Engineering curriculum during the period 1900–1950, namely four undergraduate
years, was very conventional and consisted of the first two years being devoted largely to basic studies in the natural and mathematical sciences. The last two years increasingly occupied with specialized applied courses pertaining to the particular discipline being pursued. The major curricula being civil, mining, mechanical, electrical and chemical engineering. Several national studies of engineering education were completed during that period, most of which called for additional humanities and social studies, but, that a four year program be retained.

As a result of further study of engineering in the 1950's the undergraduate curriculum moved from the applications orientation to a curriculum that is now, in most institutions, generally analytical. The advent of the computer has been largely responsible for this change in direction as well as the rapidly changing technology and a need to keep undergraduate programs as four year degree programs. The trend also is to move some of the specialty coursework into the graduate program.

The discussion of curriculum change continues. Several national initiatives to encourage faculty to integrate more design, at all levels, into the curriculum have been funded by the National Science Foundation and seem to be quite successful. The Accreditation Board for Engineering and Technology (ABET) guidelines also support the integration of design in the curriculum.

At the recent Annual Meeting of the American Society for Engineering Education, the president of the Massachusetts Institute of Technology called upon engineering education to make changes that would "emphasize design and production along with leadership and teamwork"—a change that would be as significant the change made in the 1950's.