Engineering, in its changing forms, has been taught at Guelph from the very beginning of the campus. The Ontario School of Agriculture and Experimental Farm was established in 1874 with the objective “to teach the pupils how to perform farm work in the best manner”. In 1875, honorary civil engineer, William Brown, was appointed Farm Superintendent and taught livestock, agriculture and arboriculture with a focus on engineering principles.

In 1880, the school was renamed the Ontario Agricultural College, and although a specified engineering program did not exist, J.B Reynolds brought physics to the OAC in 1895. The Physics Department contributed to the OAC many of the mechanics, hydrostatics and electricity courses, currently considered engineering fundamentals. Sir William Macdonald’s contribution to the school spearheaded the development of the Department of Domestic Sciences, Nature Study and Manual Training. After the addition of farm mechanics courses in 1905, the name was changed to the Department of Manual Training and Farm Mechanics.

The program was developed in the early twenties through the Farm Power short courses and consultation services offered by the department. In 1928, the Physics, Farm Mechanics and Manual Training departments combined to form The Department of Agricultural Engineering.
Upon the commencement of World War II, the entire student body was enrolled for military training in the OAC Contingent of the Canadian Officer Training Corps. The reassignment of buildings and resources, combined with wartime shortages caused increased emphasis on practical farming applications.

Following the war, an increase in the mechanization of Ontario farms led to the evolution of agricultural engineering. In 1946, the first class of twelve enrolled in the new Agricultural Mechanics Option and in 1948, they were awarded a Bachelor of Science in Agriculture.

Immediately after World War II, C. Glenn. E. Downing served as the Head of the Agricultural Engineering Department from 1946-1967, and was determined to make the agricultural engineering program and OAC a provincially recognized professional engineering program. Downing advocated an increase in engineering building space, top-notch laboratories and increased engineering content in all science courses.

During 1946-1950, extension activities became very prominent, and provided the farming community with practical courses, including Christmas Farm Mechanics, Tractor Maintenance and Farm Improvement.

A new program was established in 1954, allowing graduates of Agricultural Mechanics to take a fifth year of studies in Mechanical Engineering at the University of Toronto to earn a Bachelor of Applied Science (B.A.Sc.) degree along with their BSA degree. Between 1954 and 1956, courses in differential equations, farm electrification, dynamics, power and machinery and principles of engineering were added to the Guelph curriculum to make this new program successful. In 1957, Guelph students additionally had the option of completing Civil Engineering at the University of Toronto. To provide unity within the OAC, the Department of Agricultural Engineering became the Department of Engineering Science in 1957, and offered Civil and Mechanical Engineering options.
The University of Guelph was created in 1964, uniting the Ontario Agricultural College, The Ontario Veterinary College and The Macdonald Institute. The School of Agricultural Engineering was established in September 1965 as a division of the OAC, and intended to support the agricultural industry and natural resources associated with it.

The Senate of the University approved an academic program leading to the B.Sc. (Eng) degree, which included a specialization in one of three majors: mechanical and power, structural, or water resources. The Association of Professional Engineers of Ontario accredited the program.

In 1968, the department obtained office laboratory space in the newly renovated Seed Research Laboratory in partnership with the new School of Landscape Architecture. A soil mechanics laboratory, hydrology laboratory and photogrammetric laboratory were created in the space.

H.D. Ayers was appointed Director on July 1, 1968 and had a vision to fill a need for engineers capable of bridging the gap between human constructs and the biological world. In July 1968 a review was initiated on the educational, research, extension and service programs. The brief recommended new facilities for the School, and a redesign of the core-engineering program. The proposal was an eight-semester program to fill the need for a liberal engineering education to solve problems of the biological world and its associated environment of soil, water and atmosphere. Titles assigned to the major areas of specialization were Agricultural Engineering, Biological Engineering and Water Resources Engineering.

The name of the School of Agricultural Engineering was renamed to the School of Engineering, to reflect the broader spectrum of professional concern as of July 1, 1970. A site for a new building had been selected as early as 1958 and planning continued.
As the School continued to grow, the need for increased teaching and lab space was apparent. Massey-Ferguson Ltd. donated $750,000 toward the $2,000,000 building costs of the Albert A. Thornbrough Building. The building officially opened in 1973 and was named in honour of Albert A. Thornbrough, President of Massey-Ferguson Ltd., and Vice-Chairman of the University Board of Directors and Chairman of the University Finance Committee from 1968 to 1973. An airphoto laboratory was established in the School in 1974 under the direction of Prof. S.C. Collins. It pioneered the application of orthophoto and stereomate pairs.

The School maintains a soil and water field storage near the Arboretum. In Arkell, just on the outskirts of Guelph are several structures: a methane research building, underground farm scale digester, models of six scale building types for energy conservation and a major research building.

In 1970 the “Ring of Iron: A Study of Engineering Education in Ontario” recommended “that Guelph pursue its new engineering core program, with options in the life and earth sciences”. Consequently the three programs were renamed Agricultural, Biological and Water Resources, with the opportunity to take some specialist design courses. The Canadian Accreditation Board of the Canadian Council of Professional Engineers accredited the new undergraduate program in 1973. The first graduates of this program were in 1973.

The undergraduate course in the 1970s and 80s underwent a period of evolution – there was no drastic change to the concept, just a reinforcing of the primary goals. Minors in Food Engineering and Environmental Engineering were developed. The core content was reorganized in 1982 and a cooperative education program was added in 1984.

In 1972, the School consisted of 40 faculty and staff, with 155 undergraduate and 18 graduate students. By 1984 the faculty had dropped to 18 established positions and 2 contractual positions. There were 265 undergraduate students and 26 graduate students. Teaching consisted of 45 degree courses, 19 postgraduate courses, and 7 diploma courses.
The later half of the eighties marked a period of increased extension work overseas. Agricultural fieldwork in China, the West Indies and Europe completed by faculty encouraged the growth of The School of Engineer’s reputation as a leader in applied engineering practices.

In 1989 the Ontario Agricultural College’s School of Engineering merged with the College of Physical Sciences to create the College of Physical and Engineering Sciences. Newly appointed director, William James, oversaw the addition of three new majors: Environmental Engineering, Food Engineering and Engineering Systems and Computing. The new additions complied with a decrease in student demand for Agricultural Engineering.

Throughout the nineties, the core course requirements of the engineering undergraduate program were fine-tuned, as student enrollment continued to grow. Increasing undergraduate population and requirement for technological advancement sparked a $9.4 million expansion and retrofitting of Thornborough, funded by Hewlett-Packard Ltd. and the Ontario Government.

In the new millennium, The University of Guelph’s engineering programs focussed on applying theory into practice, with a focus on design. With the addition of Mechanical Engineering in 2009, followed by Biomedical and Computer Engineering in 2010, the School of Engineering offers a wide range of programs to meet both student and societal demand. In addition to a strong academic core, the School of Engineering prides itself on the spirit of camaraderie between undergraduates, graduates and faculty.

The University’s School of Engineering embarked on an ambitions expansion in 2009, including a $22.3M 50,000sq.ft. addition to Thornbrough and connection to Richards Building at Branion Square. The new study space and lab facilities enables a doubling in the undergraduate population in the following years.