A History of the College of Engineering

By Dean Emeritus J. H. Felgar

THE basic law under which the College of Engineering was established was included in an act by the territorial legislature entitled "An Act to Locate and Establish the University of Oklahoma." The act stated, "The college department of arts shall embrace courses of instruction in mathematics, physical and natural sciences with their application to the industrial arts, such as agriculture, mechanics, engineering, mining and metallurgy, manufacturing, architecture and such branches included in the College of Letters as shall be necessary to proper fitness of pupils in the scientific and practical courses of their chosen pursuits." Another section provided: "Such professional or other colleges or department as are now or may be added thereto or connected herewith and the board of regents are hereby authorized to establish such professional or other colleges or departments when in their judgment they may deem it proper."

Naturally, basic courses in English, mathematics and chemistry were listed in the first catalogue in 1892. A course in surveying was also listed but it did not appear again until 1899-1900 with a description as follows: Mathematics II—Surveying: Textbook and lectures. Ample field work arranged. Required in the scientific course. Two hours, taught by Professor Elder.

In the 1901-02 catalogue this heading is found "Courses Introductory to Work in Engineering," under which is the following statement: "Full courses are not yet offered nor degrees granted along the lines of civil, mechanical, electrical or sanitary engineering, nevertheless by proper choice of courses already scheduled here in subjects of mathematics, surveying, physics, graphics, chemistry, geology, mineralogy, French and German students may find full equivalents of the courses provided in the first two years at the best scientific and technical schools in the east."

In this same catalogue 1901-02 under the head of Professional Courses, Civil Engineering is listed as a four-year course, and a course in mining engineering is outlined. Physics was to be given for the first time that year. "A professor of physics has not been chosen.'

In the 1903-04 catalog appears Mathematics VI—Strength of Materials. Text Merriman's *Strength of Materials,* a very elementary text without any mathematics requirements except Mathematics I, solid geometry. A curriculum introductory to work in engineering was outlined for two years. A School of Mines was set up with a curriculum for four years outlined in detail with also a faculty named as follows: David Ross Boyd, Ph. D., President and acting Director; Charles Newton Gould, M. A., Professor of Geology; Edwin DeBarr, Ph. D., Professor of Chemistry and Instructor in Assaying; Charles Curtis Major, M. E., Professor of Electrical Engineering; Elmer Grant Woodruff, M. A., Instructor in Mineralogy and Lithology.

Dr. J. H. Felgar

"The object of the work in mining engineering is to qualify students for future work in prospecting, mining, quarrying and assaying with particular reference to the minerals found in Oklahoma and adjacent states."

In the catalog published in June, 1905, a School of Applied Science was set up comprised of the following departments: Civil Engineering, Electrical Engineering and Mechanical Engineering. These curricula were outlined by Professor Major, "Professor of Physics and Electricity and Head of the School of Applied Science."

Professor Major remained only one year. Professor C. M. Jansky, A. B., B. S., was employed as professor of physics and electrical engineering and as head of the School of Applied Science with H. M. MacPherson as instructor in mechanical engineering.

Courses in drawing were outlined, including elementary work, perspective, machine design, kinematic drawing, steam engine design, power plant design, electrical machinery design and structural design. Also courses in shop work in wood, forge, foundry and metal were outlined. Four-year curricula in mechanical, electrical and civil engineering were set up.

The University bulletin of 1906-07 contains the first list published of the different schools, including the School of Applied Science with the School of Mines mentioned as a separate division. Professor Jansky developed more comprehensive curricula in civil, electrical, and mechanical engineering so divided as to make it possible according to the science of the times to give instructions as to the needs required and as teachers were available. Professor S. W. Reaves had replaced Professor Elder in the department of mathematics, which still gave the instruction in surveying, mechanics of engineering and descriptive geometry.

In 1906-07 J. H. Felgar became instructor in mechanical engineering to replace Mr. MacPherson. Clarence Storm became assistant in drawing.

During the year 1905-06 rather extensive equipment was added for forge, foundry, wood working and machine shops. Some of the machines were installed and used during that year by Mr. MacPherson. Frank Flood, a carpenter and builder, taught the wood work. This equipment was fully installed and ready for use for 1906-07. The shop work together with the work in electrical engineering, mechanical drawing, and testing of engineering materials was carried on in two frame buildings which stood in the space northwest of the present Women's building. Along with such work as was demanded in mechanical engineering and testing of materials, Mr. Felgar taught the forge, foundry and machine shop work, carrying a campus schedule of thirty clock hours. Mr. Flood continued with the wood work.

Work in elementary college physics had been given during one or two years previous to 1905, but this year Professor Jansky outlined a curriculum in physics consisting of one year of general physics with laboratory, electricity and magnetic measurements with laboratory throughout one year, together with courses in mathematical theory of electricity and magnetism, theory of light and theory of heat. The physics laboratory was located in the

AUTHOR'S NOTE: This history is largely a chronological record of the development of the College of Engineering with practically no comment as to why things happened the way they did. It is hoped that the statements made are reasonably accurate as to time and sequence.

basement of University Hall, the administration building which burned in December, 1907. The laboratory work required in several of the electrical engineering courses was given in the physics laboratory.

In 1907 G. A. Hool came to the University as instructor in civil engineering. The record of work done in 1907-08 and the announcements for 1908-09 show the curricula in civil, electrical and mechanical engineering, each completely outlined and headed by an instructor especially trained in his field: Mr. Jansky in electrical engineering, Mr. Felgar in mechanical engineering and Mr. Hool in civil engineering. Dr. DeBarr taught chemistry and Professor Reaves mathematics.

The first Board of Regents after statehood appointed Dr. Arthur Grant Evans, D. D., president of the University. The faculty that carried on the work of the School of Applied Science consisted of Dr. DeBarr, professor of chemistry; Mr. Felgar, in charge of the School of Applied Science, Mr. Hool, civil engineering professor; Mr. Reaves, professor of mathematics; Mr. Gould, professor of geology and head of the School of Mines; Guy Y. Williams, instructor in chemistry; Mr. Jones, professor of physics; Mr. Bozell, instructor of electrical engineering; Mr. Dwight, instructor in drawing.

During the year 1908-09 the University was reorganized. Up until then all courses were approved, and regulations in regard to entrance and graduation, and recommendation for graduation, were made by a general faculty. The different schools, each presided over by a professor called the "head," were under the jurisdiction of this general faculty. The reorganization took the form of separate schools and colleges. Those having more than one outlined curriculum were called colleges. Each of these schools or colleges had a separate faculty with power to determine the entrance requirements, the courses to be taken and the requirements to be satisfied before a student could be recommended to the Board of Regents to receive a degree. All other regulations remained with the president and his advisory council of deans, known as the Administrative Council. J. H. Felgar was elected dean of the College of Engineering, which consisted of the following schools: School of Civil Engineering, G. A. Hool, director; School of Mechanical Engineering, J. H. Felgar, director; School of Mines, Dr. D. W. Ohern, director; School of Electrical Engineering, H. V. Bozell, director. The School of Mines, a separate division before 1909-10, now became a part of the College of Engineering.

The faculty of the College of Engineering consisted of those giving instruction in the technical work and those giving instruction in other work required of students in the College of Engineering. This work was largely listed in the College of

Arts and Sciences, which provided close to forty per cent of the work required.

In 1913, all work in testing of materials was placed in a department of mechanics since it was fundamental training needed by all students of engineering irrespective of their chosen specialty. Mr. Dwight was placed in charge of the department. This department has been continued until the present time. In 1916 Mr. Dwight resigned and H. L. Whittemore was employed in his place. In 1917-18 Mr. Whittemore was on leave because of the World War and Associate Professor James C. Davis took his place. As Mr. Whittemore did not return after the war, Mr. Davis continued as head until his death in 1936. Professor Richard Vernon James has been in charge of the department since then.

Knowing that drawing was one of the fundamental modes of expression of the engineering profession and having the vision of developing engineering at the University, Mr. Elder, the first mathematics teacher of the University, outlined in 1901 a course in graphics called Graphics I—Fundamental Principles of the Graphic Science, and another course, Graphics II—Descriptive Geometry. These courses were taught by Mr. Elder and carried as Graphics until 1905 when Mr. Reaves, who followed Mr. Elder, taught descriptive geometry as Mathematics XVII. When Mr. Jansky came as the head of the School of Applied Sciences, graphics became mechanical drawing and a full list of courses was outlined including elementary mechanical drawing, descriptive geometry, machine design, and the design courses for the mechanical, electrical and civil engineering departments. Clarence Storm assisted Mr. Jansky in the drawing department. In 1908 Mr. Dwight took charge of the general drawing and relieved the mathematics department of the responsibility of teaching descriptive geometry. In 1912 the design courses were transferred to the different departments.

In 1917 David Logan had charge of the drawing. In 1919 Assistant Professor F. C. Miller was added to the drawing department. In 1920 Assistant Professor Tom Sorey had charge. In 1923 Assistant Professor G. R. Maxson, who had come to the University in 1919, was made head of the department of mechanical drawing. He still has charge today, as associate professor of engineering drawing.

The names of the School of Civil Engineering and School of Electrical Engineering remained the same throughout the years. In 1910 the name of the School of Mines became the School of Mining Geology, with Professor Charles Henry Taylor as director. A School of Chemical Engineering was added, with Dr. Edwin DeBarr as director. In 1916 a School of Engineering Geology was introduced, with the head of the department of ge-

(PLEASE TURN TO PAGE 34)

IMAGE IS NOT AVAILABLE ONLINE DUE TO COPYRIGHT RESTRICTIONS.

A paper copy of this issue is available at call number LH 1 .O6S6 in Bizzell Memorial Library.

IMAGE IS NOT AVAILABLE ONLINE DUE TO COPYRIGHT RESTRICTIONS.

A paper copy of this issue is available at call number LH 1 .O6S6 in Bizzell Memorial Library.

A History of the College of Engineering

(CONTIUED FROM PAGE 29)

ology in charge. In 1918 Dr. W. R. Lee was made director, followed in 1919 by Dr. J. B. Umpleby. In 1924 Dr. V. E. Monnett became director and continues to be. In 1922 the name of the school was changed to Engineering Geology.

In 1918 a curriculum in manual training was organized, with the head of the department of mechanical engineering in charge, to satisfy the requirements for a certificate to teach manual training in high schools. This was done at the request of the School of Education of the University.

In 1924 a School of Engineering Physics was organized with Dr. Homer L. Dodge as director. The purpose of this school is to prepare students to enter the field of research, in the electrical industry particularly, and to engage in research in fundamental processes in any industry.

A curriculum in architectural engineering was organized in 1924-25 with the notation that the College of Engineering was now equipped to give the first two years of this course. The courses were carried in the department of drawing. Tom Sorey taught these courses. In 1927 courses in architectural engineering were outlined as such, and Harold Gimeno was employed as assistant professor of architectural engineering. In 1929 Joseph E. Smay was employed as professor of architectural engineering and director of the School of Architectural Engineering. He also outlined a curriculum in architecture and the name was changed to the School of Architecture and a fifth year was added in architecture to conform to the standards in architectural training. Service curricula were developed, such as landscape architecture, and city planning.

The demand for training for the petroleum industry was emphasized after the World War. The University first met the demand for specialized work by introducing a curriculum in petroleum technology in the School of Chemical Engineering. Courses in petroleum and gas technology were introduced and taught in 1919 by Professor Fred Ward Padgett.

In 1924 the School of Petroleum Engineering was organized with Professor H. C. George as director, with curriculum in petroleum engineering and oil field management. In 1926 the curriculum in petroleum technology in chemical engineering was transferred to the School of Petroleum Engineering and named refinery engineering, and Mr. Padgett was transferred to the department of petroleum engineering and made professor of petroleum engineering. The oil

field management option was dropped in 1932. Mr. George resigned in 1933 and Professor W. H. Carson was placed in charge as acting director and became director in 1937.

In the belief that there is the possibility of training a student for an engineering career without choosing a special field, the curriculum in general engineering was outlined in 1933 with Professor James C. Davis as acting director. After Professor Davis' death in 1936, Professor Richard Vernon James became acting director.

The engineering shops have always been considered as an essential element in engineering training. Being willing to work with the hands is part of the basic philosophy of the engineer. Sufficient courses in wood working and metal working have always been included in the engineering curriculum. The shops started at the University with very satisfactory equipment but it became outmoded in time. William Aitkenhead was our first full time instructor in shops. In 1914 he was succeeded by E. S. Davis, whose death occurred in 1922. He was followed by Mac Cameron and T. K. Davis. In 1936 Dr. William Allen Hardin was employed as instructor and supervisor of the shops. He had developed a complete course in industrial education. In 1931 Professor W. H. Carson, director of the School of Mechanical Engineering, was given supervision of manual training and shop work. Through his efforts, special appropriations were obtained for the shops. In 1937 and 1938 complete new equipment was installed in the wood and metal shops. Included also is welding equipment.

A word must be said about the basic school without which the special schools and departments would not exist.

G. A. Hool was the first professor of civil engineering, coming in 1907. He stayed two years and in 1909 Professor F. W. Chappell took charge of the civil engineering course. In 1911 Professor James I. Tucker was employed. In 1918 and 1919 while Mr. Tucker was on leave, Professor R. C. Terrell taught civil engineering courses. In 1920 Professor J. F. Brookes became director. As part of its service program the school includes curricula in municipal, structural and transportation engineering.

In 1910 the School of Chemical Engineering was organized with Dr. Edwin DeBarr as director. In 1919 the curriculum options of metallurgical chemistry, petroleum technology, and sanitary chemistry were outlined. In 1923 Dr. Guy Y. Williams became director. In September, 1938 Dr. R. L. Huntington became director of the School of Chemical Engineering, and the professional work in refinery engineering in the School of Petroleum Engineering was transferred to the School of Chemical Engineering.

In 1905, C. M. Jansky as professor of physics and electrical engineering and head of the School of Applied Science taught the first course in electrical engineering and reoutlined the curriculum. He taught this work until September, 1908 when Professor Felgar in charge of the School of Applied Science recommended Mr. H. V. Bozell as instructor of electrical engineering and he was employed by the Board of Regents. The next year Mr. Bozell was made director of the School of Electrical Engineering. He continued as director and professor until September, 1916, when L. W. Morrow became acting director and continued as director until September, 1918, when he left on leave and F. G. Tappan, who came in 1917 as associate professor became acting director. In 1919 Mr. Tappan became director and continues as such.

J. H. Felgar was employed as instructor in mechanical engineering and among other subjects taught the first courses in mechanical engineering. In 1910 he was assisted by Associate Professor H. B. Dwight. In 1913 he was assisted by Assistant Professor William Aitkenhead. Professor W. J. Wohlenberg came in 1915 as assistant professor of mechanical engineering. He was followed by Professor L. C. Lichty in 1916. Mr. Lichty was granted a sabbatical years leave of absence in 1923 and Professor B. G. Helmrich, who was added to the department in 1918, was in charge. In 1925 Dean J. H. Felgar withdrew as director and Professor Helmrich was advanced to director. In 1928 Professor W. H. Carson was made director as Professor Helmrich had resigned.

In 1929 an aeronautical option was introduced. In 1933, on account of the success of the Gas Measurement Short Course and the demand of the gas industry, a School of Natural Gas Engineering was organized.

After serving as dean of the College of Engineering for twenty-eight years, Dr. J. H. Felgar resigned in the summer of 1937, and was appointed dean emeritus and professor of engineering.

William H. Carson was advanced to the position of dean, and also is now director of the Schools of Mechanical and Petroleum Engineering.

In the beginning, the engineering classes and laboratories occupied temporary frame buildings which stood near where the Women's Building is now. In 1910 the Engineering Laboratory Building was erected. It was originally 160 by 38 feet but has been enlarged from year to year.

The College of Engineering moved into the present Engineering Building in January, 1925. The Petroleum Engineering Laboratory was built in 1929. Near it is a brick building 30 feet square known as the experimental lubricating oil plant. Some equipment is installed in the open because of lack of building space.