



When Dean W. H. Carson of the College of Engineering tries to keep up with alumni of the college, he has to hunt up such far distant points on the globe as Persia and Venezuela and Rumania.

Continued Progress in Engineering

By
Dean W. H. Carson

A word picture of the progress made in the College of Engineering during the last year is presented in this article.

At the beginning of last year an intensive campaign to obtain a Legislative appropriation for a Petroleum Engineering building at the University was conducted. The bill passed the Senate only to be defeated during the closing hours of the session. The deferment of this building project has affected the advancement of our educational program. We did not make the request because we were concerned over problematical future expansion, but to take care of our present crowded condition.

After the September registration, 1,450 students had enrolled in the College of Engineering, making it the second largest college on the campus. This is the largest enrolment we have ever had for any one semester and approximately four hundred more than that of the previous semester. Each of our two largest classrooms has a seating capacity of only forty-five. To solve the classroom problem it was necessary to make thirty-nine changes in room assignments. All available room space on the campus was utilized, including one room under the west wing of the Stadium and two rooms in the old wooden gymnasium building just south of the Union Building. Chairs have been placed in the petroleum engineering laboratory so that in the morning it can be converted into a classroom. In the afternoon the chairs are moved aside to make

room for the students to conduct their laboratory work. Our library, which will only accommodate 25 students, is a good example of our crowded condition. Is it small wonder that our educational program is affected? We feel that we have made some progress in our building campaign because we have had an opportunity to present these facts to the people of the state and with this pioneering work done it should not be difficult to convince the next Legislature that a new building is urgently needed for our college.

Last year more company representatives visited the College of Engineering with the aim of employing students than any previous year. All of the graduating students were employed by June 15. This year a number of company representatives have visited our college already and they have given definite offers of employment to a number of students. Several interviewing dates are scheduled for the near future and we expect to maintain our employment record.

We are making a sincere effort to raise the scholastic standing of the College of Engineering to equal the standards of the foremost engineering schools in the United States. We are strictly enforcing our policy of dropping students from the rolls of the University if they do not pass in the specified amount of work. We have organized an advisory system by which we assist the students in their individual problems and suggest means of becoming orientated in their work.

Each faculty member of the college is developing graduate and undergraduate research on projects, the results of which are essential to the industry of the Southwest.

SCHOOL OF ARCHITECTURE

The crowded condition of this school has been partially relieved by a drafting room recently added to the Engineering Laboratory Building. Students are rapidly finding their stride in work in architectural design as evidenced by the fact that one senior student placed fourth in the national competition for the Design of a Highway Bridge, and Mrs. Lois Worley, '38architecture, was awarded a mention on the Emerson Prize problem. Her drawing is now being circulated among the various schools in the United States. We have also just received word that two of our architectural students have been given an award in the Paris Prize preliminary contest, being the only awards this side of the Mississippi river.

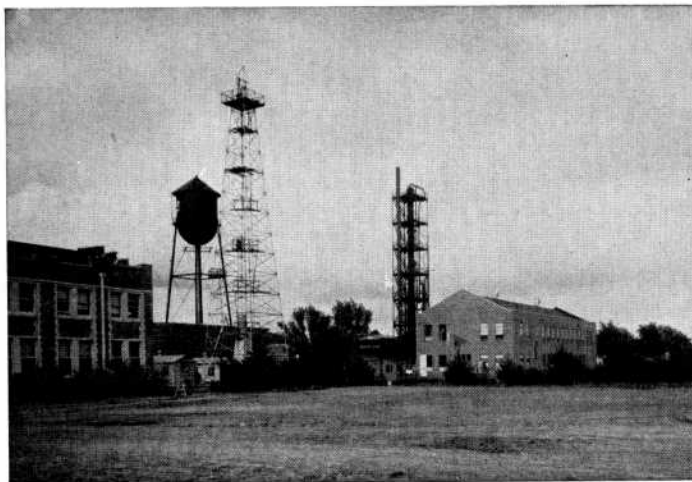
Joseph E. Smay, Director of the school, has been appointed by Governor Marland to the State Board of Architectural Examiners. He has been re-elected President for the Oklahoma Chapter of American Institute of Architects. Also, he is president of the State Society of Registered Architects. He successfully organized and conducted a Builders' Conference held during the latter part of February. Henry L. Kamphoefner is a new member of our

faculty, succeeding Leonard Wolf. Mr. Kamphoefner has a master's degree in architecture from Columbia University and is a holder of a certificate from the Beaux-Arts Institute of Design. Hershel Elarth is also a new faculty member, succeeding Otho Sparks who resigned at the end of the first semester.

CHEMICAL ENGINEERING

The School of Chemical Engineering has been made an independent unit of the College of Engineering. Refinery engineering, formerly an option in petroleum engineering, is now an optional curriculum of chemical engineering. This change not only gives the students enrolled in straight chemical engineering work access to the refinery engineering laboratory equipment but it also satisfies the requirements for recognition by the American Society of Chemical Engineers and the Engineering Council for Professional Development. Dr. Guy Y. Williams, who has so ably conducted the affairs of the school in the past, has been succeeded by Dr. R. L. Huntington, who is now director of the School of Chemical Engineering. Other faculty members of this school are Dr. C. T. Langford and J. W. Donnell.

Extra-curricular and professional activities of the chemical engineering faculty make an impressive record. R. L. Huntington presented a paper before the American Institute of Chemical Engineers in Toronto, Canada, last May, on the results of studies that had been made in the petroleum laboratory on the condensation of steam and certain hydrocarbons. During the past year he was elected chairman of the Research Committee of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers. He presented a paper, "Flow of Fluids through Reservoir Sands," in Oklahoma City before the fall meeting of the A. I. M. M. E. Last November he presented a paper before the annual meeting in St. Louis of the American Institute of Chemical Engineers on the design of fractionating columns. At present he is directing research on the performance of oil reservoirs and the design of gasoline plant and refinery equipment. C. T. Langford is reorganizing the chemical engineering courses and installing apparatus and instruments in the Petroleum Engineering Laboratory building. Just recently he completed some research work on the treatment of gases containing sulphur compounds. He will also be in charge of the spring inspection trip of senior chemical engineers. J. W. Donnell spent the past summer in graduate study at the Massachusetts Institute of Technology, working toward a Ph. D. degree in chemical engineering. On his way to Boston he visited fifteen major oil refineries and five automobile manufacturing plants, making valuable contacts for the university. During the past year he has conducted research work on various prob-



One reason the oil industry thinks so much of the O. U. School of Petroleum Engineering is that this school has the only complete refinery unit in operation at any such school in America.

lems: (1) A wax distillate survey was made on various neutrals from a number of oil refineries in Oklahoma. (2) The absorption of coloring materials in lubricating oils through the contact of these oils with clays from Western Oklahoma. (3) Filtration studies on flow of lubricating oils through clays. This experimental work is being done in the University lubricating oil plant.

CIVIL ENGINEERING

The building of the Highway 77 bridge across the South Canadian River at Purcell has afforded an excellent opportunity for civil engineering students to study by actual observation all phases of bridge construction work. Several inspection trips were made to the bridge during the first semester and more inspections are planned for the second semester.

There has been a thirty per cent increase in the enrolment of the elementary surveying classes.

J. F. Brookes, director of the School of Civil Engineering has been a member of the Board of Registration for Professional Engineers of Oklahoma for two and one-half years and he was elected chairman of the board this year. More than one thousand applications have been considered during this time and approximately eight hundred certificates issued to engineers.

N. E. Wolfard was responsible for organizing and conducting the second annual Highway and Street Conference, held at the University in November. The registered attendance of 244 well indicates the popularity of the conference. The meeting was very successful. Mr. Wolfard is also director of the Geodetic Survey work in the state, an agency co-operating with the U. S. Coast and Geodetic Survey to establish permanent and accurate survey monuments in Oklahoma.

M. E. Mills is making an intensive study of soil mechanics as applied to the bearing capacity of soils in foundation work,

construction of earth dams and highway construction. In connection with this work he attended a two-day conference at the University of Texas, Austin, in January of this year. Civil engineering students will begin research in soil mechanics as soon as the necessary apparatus arrives. Mr. Mills has acted as consulting engineer on the sewage disposal problems confronting officials of the City of Norman and the University.

J. Ray Matlock, chairman of the Engineering Problems Committee, is responsible for the material to be included in this course. This committee plans to make Engineering Problems an orientation course and one of real value to the freshman engineer.

TECHNICAL MECHANICS

The increased enrolment has caused the teaching load of this department to increase thirty-five per cent over that of last year. With no addition in personnel, only a limited amount of time is available for extra-curricular and professional activities. R. V. James is acting head of the Department of Mechanics. In addition to his departmental teaching work and administrative duties he is chairman of the Freshman Advisory Committee and also chairman of the General Enrolment Committee.

A. M. Lukens is co-operating with several manufacturers on a research program to determine the endurance limits of oil well sucker rods. L. A. Comp is working on research with the new aeronautical wind tunnel. V. E. Willoughby, a Sooner graduate and formerly with the State Highway Department and the Government on the Denison Reservoir project, is interested in research on the circulation of water through various types of soil.

ENGINEERING SHOPS

Graduates of the College of Engineering, who labored in the old machine shops, will be glad to know that every machine

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Continued Progress in Engineering

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in the wood and metal working shops has been replaced with the latest types of equipment. The Industrial Education shop is complete in every detail. R. A. Hardin, Head of the Engineering Shops and Industrial Education, is responsible for the installation of this equipment. T. K. Davis and R. A. Somerville assisted Dr. Hardin in this work.

ENGINEERING DRAWING

The over-crowded condition of this department was partially relieved by the addition of a large drafting room to the upper floor of the Engineering Laboratory building. G. R. Maxson, head of the Department of Engineering Drawing, has completely renovated the blueprint room, replacing the old vertical type blueprinting machine with modern continuous printing equipment. L. H. Cherry, instructor, is a new member of this faculty. Mr. Cherry is a graduate of the University of California where he specialized in aeronautical engineering. He is also taking an active interest in the University wind tunnel research work.

SCHOOL OF ELECTRICAL ENGINEERING

A heavy enrolment in courses for non-electrical majors made it necessary to add more sections in these courses. E. P. Chal-lenner, a graduate of the University of Oklahoma and a recent employe of the General Electric Company at the Schen-ectady works, has been added to the electrical engineering faculty to assist in teaching non-electrical major courses. F. G. Tappan, director of the School of Electrical Engineering, has been reappointed secretary of the College of Engineering faculty. C. T. Almquist has been reelected councilor for the Student Branch of the American Institute of Electrical Engineers. As councilor he automatically becomes a member of the executive committee of the Oklahoma City Section of the A. I. E. E. E. R. Page has recently installed a General Electric high frequency stroboscope which will be used in connection with his research work to determine the effect high peripheral speed has on armature winding.

C. L. Farrar organized and successfully conducted a radio short course at the University January 19 and 20. Approximately 125 radio operators and men interested in radio attended this conference. Mr. Farrar is developing a research program on high frequency radio transmission. The purpose of this research is to determine the transmission characteristics in Oklahoma. He has also filed an application with the Federal Radio Communication Commission for a license to operate a high frequency transmitter on 8655 K. C. in the name of the University of Oklahoma.

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GEOLOGICAL ENGINEERING

The School of Geological Engineering has had a marked increase in registration. There are now 125 students (upperclassmen) enrolled in this school. Among the new courses that have attracted most interest is a course in the study of well samples, which after this semester will be given along with a one-hour lecture course in Mining Practice, a course in General Metallurgy, and a course in Industrial Mineral Research. F. C. Wood, mining engineer of the Oklahoma Geological Survey, is teaching these courses.

MECHANICAL ENGINEERING

W. H. Carson, director of the school, was re-elected national chairman of the Petroleum Division of the American Society of Mechanical Engineers. Last September he was elected honorary member of the Tulsa Engineers Club. He has been appointed chairman of a Special Research Committee of the Mid-Continent Section of the A. S. M. E. As director of the Southwestern Gas Measurement Short Course he has annually sponsored this popular conference at the University. Last year 622 men registered. Twenty-eight states and three foreign countries were represented. He has been appointed general chairman of an Oil Metering Conference to be held at the University April 7 and 8 of this year.

E. F. Dawson, associate professor of mechanical engineering, was elected president of the Oklahoma Section of the American Society of Heating and Ventilating Engineers. He is also a member of the Speakers Bureau of this society. He delivered a paper at Los Angeles, California, last December on the subject of air-conditioning small homes. He was official Oklahoma representative at the national meeting in New York in January. A group of senior mechanical engineers are working with Mr. Dawson on an air-conditioning research project at the University.

E. E. Ambrosius is directing the A. S. M. E. University Fluid Meters Research project which employs sixteen full-time W. P. A. research workers. Mr. Ambrosius made a progress report in Tulsa last September before a group of men interested in fluid measurements. He also presented a paper in Houston, during the oil show, on the subject of metering petroleum and its products.

C. N. Paxton succeeded Joseph Liston who resigned to accept a position at Purdue University. Mr. Paxton is a graduate of Stanford University and came to the University from the Naval Training School at Pensacola, Florida, where he was an instructor in aeronautics. He has been active in the Society of Automotive Engineers. He is also responsible for the completion of the University wind tunnel. Sylvan Cromer is continuing research on the flow of oil and gas mixtures in vertical columns. A number of students are working on this project under his di-

rection. On the authority of the last Legislature, Mr. Cromer made a complete gas leakage survey of all state buildings in the Oklahoma City area.

PETROLEUM ENGINEERING

This school experienced a record enrollment for the first semester, with 460 major students. Almost every state in the Union was represented and there were a number of men enrolled from various foreign countries.

W. H. Carson, director of the school, was chairman of the Local Arrangement Committee for the fall meeting in Oklahoma City of the American Institute of Mining and Metallurgical Engineers. Mr. Carson wrote an article on the activities of the School of Petroleum Engineering which appeared in *Mining and Metallurgy*, the official publication of the A. I. M. M. E. At present he is corresponding with engineers of the petroleum industry concerning the feasibility of a sucker-rod research project which has been proposed.

W. F. Cloud, professor of petroleum production engineering, has written a 600-page volume entitled, *Petroleum Production*, which was released by the University Press last year. The book is a technical treatise of the various phases of lease development and operation. It has been adopted as a standard text by a number of universities. He is also directing research on oil well plunger pump efficiencies under various conditions of plunger stroke. The 500-foot well in front of the Petroleum Engineering Laboratory forms the basis of this research, which is conducted by graduating seniors. During the past year H. E. Gross has directed a very important rotary drilling mud research project. Last October he presented a technical paper regarding extra-heavy mud admixtures before the research division of the American Institute of Mining and Metallurgical Engineers at their fall meeting in Oklahoma City.

R. L. Huntington has developed a new course entitled Oil Reservoir Engineering which was added to the petroleum engineering curriculum this year.

ENGINEERING PHYSICS

Enrollment in the physics department has increased fifteen per cent over last year, and the number of physics major students has increased by more than thirty per cent.

Associate Professor Duane Roller, who was on leave of absence during 1936-37, resigned last spring to accept a position in Hunter College, New York City. He was replaced by Assistant Professor C. A. Whitmer. Dr. F. W. Crawford resigned in June, 1937, to enter the research laboratory of the Phillips Petroleum Company in Bartlesville, and he was replaced by Dr. A. Hemmendinger who came to Norman from the California Institute of Technology.

The engineering physics department is headed by Dr. William Schriever.