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Sixty Years of Math at Western

Robert C. Bueker

In 1906 the General Assembly of Kentucky enacted legislation providing for the establishment and support of two state normal schools. One of these institutions thus founded, the Western Kentucky State Normal School, was located at Bowling Green, Kentucky. This school was created by converting the Southern Normal School, a private school founded in 1875 and owned and operated at Bowling Green by H.H. Cherry, into a state institution. Included among the faculty selected to inaugurate the program of the Western Normal were J.M. Guilliams, A.M., English and Mathematics and J.R. Alexander, A.B., Mathematics and Physics. Professor Alexander graduated from Southern Normal in 1885 and was a member of the faculty until 1888. He was one of the business managers during the years 1890-1892 and joined the faculty again in 1894. After completing advanced work at the University of Chicago in 1904 he became the first mathematics department chairman in the Normal School, a position he held from 1907 until 1930. When classes began at Western Kentucky State Normal School on January 22, 1907, the following mathematics courses were offered: arithmetic, algebra, trigonometry, plane geometry. These courses constituted the mathematics requirement for the Intermediate Certificate, which entitled the holder to teach in any county in the state for four years. To obtain a 'Life Certificate' one could have taken a semester of analytic geometry and a semester of calculus as part of the requirements. In 1909, R.H. Marshall, A.B., Western Normal was added to the math staff. Mr. Marshall left in 1912 and Mr. Frank L. Turner, A.B., Valparaiso University was hired to fill this vacancy.
In 1915 a very important addition was made to the mathematics department when Henry M. Yarbrough was appointed to the faculty of the Normal School. Professor Yarbrough was a graduate of Western Kentucky State Normal and received his A.B. from the University of Indiana in 1916. In 1925 he completed the requirements for the A.M. at Indiana and received the Ph.D. from the same institution in 1930.

In 1922 the Normal School was made a teachers college (Western Kentucky State Normal School and Teachers College) and the first four-year degree class was graduated in 1924. Clyde Franklin and Lee Jones were the first graduates with majors in mathematics. The following courses were listed as departmental offerings: Teachers Arithmetic, College Algebra, Trigonometry, Surveying, Theory of Equations, Plane Analytic Geometry, Advanced Surveying, Solid Analytic Geometry, Differential Calculus, Integral Calculus, Ordinary Differential Equations. Seven hours of mathematics was required for graduation at that time. In 1925 Miss Susan Howard, A.B., Western Kentucky State Normal and Teachers College, joined the department. She later became a member of the Training School faculty and rejoined the math faculty in the 1940's. In 1926 one finds the first published list of courses required for a major in mathematics: College Algebra, Trigonometry, Theory of Equations, Plane Analytic Geometry, Differential Calculus, Solid Analytic Geometry, Integral Calculus, Ordinary Differential Equations.

Miss Elizabeth Strayhorn, M.A., George Peabody College, became a member of the department in 1928. In 1929 two fine men were added to the department, Hugh Johnson, M.A., University of Cincinnati and Merrill Schell, M.A., University of Michigan. Mr. Johnson also taught violin. These two gentlemen were with the department for many years and helped to maintain the standards of excellence so
necessary to a mathematics department. Solid Geometry was added to the course offerings and Teachers Arithmetic, which had previously been essentially a general mathematics course, was redesigned primarily for elementary school teachers. During this same period Professor J.R. Alexander published a text \textit{A Brief Course in General Mathematics} which was used for many years for the general mathematics course of study.

In 1930 Dr. Yarbrough replaced Professor Alexander as Department Head in the newly named Western Kentucky State Teachers College. Dr. Yarbrough held this position for twenty-eight years and did an excellent job in guiding the department through the depression, the war years, and the post-war boom. Professor Alexander remained associated with the department and the college until his death in 1943. During the year 1930 a new member was also added to the department, Miss Tryphena Howard, M.A., University of Michigan.

In the spring of 1931 the Board of Regents approved a course of study leading to a M.A. degree. Thus the Graduate School was organized in which all students majored in School Administration and Supervision. A graduate minor was available in mathematics. The following graduate mathematics courses were added: two semesters of Advanced Calculus, Higher Algebra, two semesters of Complex Variables, Partial Differential Equations, Graduate Seminar. This is also the year that undergraduate minors became available. A first minor in mathematics consisted of Algebra, Trigonometry, Plane Analytic Geometry, and Differential Calculus. A second minor in mathematics consisted of Algebra, Trigonometry, Theory of Equations, and Plane Analytic Geometry. The mathematics requirement for home economics majors was dropped during this year, and the requirement for agriculture majors was dropped from seven to three hours. Paul
W. Overman, M.A., taught in the department during the year 1931-32, and B.K. Dowell, M.A., taught in the department during the second semester of that same year.

Dr. Robert D. Perry, Ph.D., George Peabody College, was an addition to the music department in 1932 and he taught a reduced load in the math department for several semesters. One of the 'humorous' definitions in the '32 edition of the Talisman was as follows: "Math - A course in which seven hours are too many." During the next few years the graduate program had developed to the extent that a student could receive a M.A. with a major in mathematics. Mr. Kenneth Wood was the first student to receive an M.A. with a major in mathematics (August, 1935). Graduate work at Western continued until the summer of 1936, when the Council on Public Higher Education of Kentucky stated that the University of Kentucky would have the only state supported graduate school. Thus in 1937, Advanced Calculus, Partial Differential Equations, and Complex Variables were all numbered at the undergraduate level and Higher Algebra and Graduate Seminar were dropped. In 1939 a Descriptive Geometry course was added at the undergraduate level.

In the 1941 catalogue a M.A. in Education was listed as being available and mathematics was listed as one of the possible minors. By this time Investigations in Mathematics had been added at the graduate level, and Advanced Calculus, Partial Differential Equations, and Complex Variables had been dropped entirely.

After the start of the Second World War Professor Johnson was granted a leave of absence and joined the U.S. Navy. He returned to Western at the end of the conflict. Miss Strayhorn also joined the armed forces, the W.A.C., and served throughout the war. In January, 1943 Miss Susan Howard returned to the
department after teaching some seventeen years at the Training School. She left the college for a two year period in 1944 and returned in September, 1946. Spherical Trigonometry was added to the course listings in 1943. In 1947 a new course, Introduction to College Algebra, was listed. There was little change in course listings or personnel between 1947 and 1956, although the name of the college was changed again in 1948 to Western Kentucky State College. During this period a math club was established and has continued to function almost-periodically. In 1956 Miss Howard retired and Mr. George Downing, M.A., George Peabody College, joined the department.

In the summer of 1958 Dr. Allen G. Anderson, Ph.D., University of Michigan, taught in the department of mathematics and became the department head in the fall of that year when Dr. Yarbrough retired. During his seven year tenure as department head Dr. Anderson strengthened the department by adding many new courses and obtaining the services of some seventeen valuable additions to the department staff. The math department began participating in a National Science Foundation Institute for High School Teachers during that school year and has continued to participate. Courses offered are: Descriptive Statistics, Foundations of Mathematics, Introduction to Analysis.

Professor Schell retired in the summer of 1959 and in the fall of the same year Mr. Wilburn C. Jones, M.A., Western Kentucky State College, and Mr. Osburn Flener, M.S., University of Illinois, joined the department. Mr. Jones had been an instructor at the Training School since 1956. During that same year two new courses were listed: Intermediate Calculus and College Geometry. In 1960, Miss Mamie Braswell, M.A., George Peabody College, and
Mr. Theodore K. Dyer, M.S., Vanderbilt University were added to the department. The following courses were added: General Mathematics, Mathematics of Finance, Descriptive Statistics, History of Mathematics, Probability, Vector Analysis, Foundations of Mathematics.

In the fall of 1961 there were two additions to the department, Miss Bernice Wright, M.A., Columbia University, and Mr. Edson W. Ewing, M.A., Ball State Teachers College. Miss Wright had been teaching in the Training School since 1941. During the year 1962 there were four departmental additions: Mr. Louis Arvin, M.A., Louisiana State University, Miss Pauline Lowman, M.A., University of Alabama, Dr. Martha Watson, Ph.D., University of Kentucky, Mr. Joseph F. Stokes, M.A., University of Arkansas.

In September, 1963, three faculty members were added to the department: Dr. Betty Detwiler, Ph.D., University of Kentucky, Mr. Edward S. Ebbert, M.S., Auburn University, Mrs. Hope Stidham, M.A., University of Kentucky. The following courses were added the same year: Undergraduate Seminar, Principles of Mathematics, Mathematics of Investment, Introduction to Algebraic Systems, Linear Algebra and Matrix Theory, Geometry II, Probability and Statistics II, Topology. Also during this year the Physics Department inaugurated a Master of Science Degree in Engineering Physics. To help augment this program the math department added nine hours of graduate work entitled Advanced Engineering Mathematics. These three courses were taught by members of the math and physics departments. In 1964 the following personnel were added to the department: Mr. John Brevit, M.S., University of Kentucky, Mr. Stephen A. Jacobs, M.A., University of Michigan, Mr. Robert E. Krenzin, M.A., University of Wisconsin, Mrs. Mary Muse, M.A., University of Arkansas. Partial Differential Equations
and Theory of Numbers were added to the mathematics offerings. In the summer of 1965 Miss Braswell and Mr. Johnson retired and Dr. Anderson left to become chairman of the department at Upsala College in East Orange, New Jersey.

On June 1, 1965 Western's Board of Regents approved the formation of three new colleges. The mathematics department was then included in the newly formed Ogden College of Science and Technology. Dr. Marvin W. Russell, Ph.D., University of Florida, was appointed Dean of Ogden College. During the 1965-1966 school year the department was managed very successfully by a committee of five department members: Betty Detwiler, George Downing, Wilburn Jones, Joe Stokes, Martha Watson. Three staff additions were made in the fall of 1965: Mr. John Jander, M.S., Oklahoma State University, Miss Carol Reagles, M.S., University of Kentucky, Miss Loyce Roper, M.A., University of Missouri.

In June, 1966 Dr. Robert C. Bueker, Ph.D., Iowa State University became the fourth department head. Other additions for that year were as follows: Dr. Joe K. Smith, Ed.D., Florida State University, Miss Pat Hooper, M.S., Purdue University, Mrs. Rebecca Stamper, M.S., Vanderbilt University, Mr. Dallas Wheat, M.A., Western Kentucky State College. Abstract Algebra II, Intermediate Analysis II, and Geometry for Elementary Teachers were added to the course listings in the fall of 1966. In the summer of 1967 the following undergraduate courses were added: Introduction to Computer Science, Computer Organization and Programming, Symbolic Logic, Boolean Algebra and Switching Theory, Numerical Analysis I, Complex Variables. In June, 1966 the legislature elevated Western to the status of a university. Thus the development of appropriate masters degree programs was approved and in the summer of 1967
graduate programs in mathematics were approved by the Board of Regents and the following graduate courses were added to the curriculum: Numerical Analysis II, Topics from Algebra, Advanced Differential Equations, Real Analysis, Advanced Applied Mathematics I and II, Topology II, Complex Analysis, Functional Analysis, Optimal Analysis, Special Topics, Thesis Research. Dr. Chester L. Davis, Ph.D., Michigan State University and Mr. Schultz Riggs, M.A., University of Kentucky joined the department in June, 1967; Dr. Walter Feibes, Ph.D., University of Buffalo will join the staff in September of the same year.

During the summer of '67 the National Science Foundation sponsored an institute for high school juniors at Western. The mathematics portion of the institute was administered by Mr. Wilburn Jones with the assistance of Dr. Joe Smith. The courses offered were as follows: Structure of the Real Number System, Elementary Matrix Algebra. It was felt that the institute was a success and plans were made to hold a similar institute in 1968.

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