

A Century of Chemistry Instruction

At the College in Arlington

1895-1995+

By

Thomas J. Cogdell

December, 2011

A Century of Chemistry Instruction at the College in Arlington

1895 Arlington College

Better than the Common School

1902 Carlisle Military Academy

Character Building via Military Discipline

1913 Arlington Training School

Better Science and Little Local Support

1916 Arlington Military Academy

Politics and Transition

1917 Grubbs Vocational College

State Support, Texas A&M Administration and Practical Goals

1923 North Texas Agricultural College

A Real Agricultural and Mechanical Junior College

1949 Arlington State College

Engineering, Technology and a Senior College Town

1966 University of Texas at Arlington

Laboratories, Libraries, Internationals and a Tier One Goal

Arlington College began in September, 1895 as a private school intending to offer a higher quality education than did the existing public school administered by the county. Not a college in the modern sense, it taught grades one to ten, the standard curriculum for a high school diploma in Texas at the time. At the beginning it had 75 students, who paid tuition, six teachers, and no science course listed among its subjects. Its co-principals Lee Morgan Hammond and William M. Trimble are honored by the naming of the paired buildings on campus Hammond Hall and Trimble Hall.

Arlington College originally consisted of a single wood frame school building having two stories and a finished attic, built during the summer of 1895. There were four classrooms on the ground floor and two more plus a larger assembly hall on the second floor. It sat on a two acre tract donated by the J. W. Ditto and A. W. Collins families located on a prairie immediately southwest of the original town site of Arlington. The site was the size of a city block southwest of the intersection of W 1st Street and S West Street, where a part of the Hereford Student Center building is now across the street from the Christian Campus Center.

Arlington College was succeeded in 1902 by **Carlisle Military Academy** on the same campus. James McCoy Carlisle had a distinguished background that included a term as State Superintendent of Public Instruction and President of the Texas State Teachers Association. At the end of its first year CMA had 71 students, 25 of them boarding and 46 local boys, all in uniform and under military discipline. Grades were from fourth through tenth and included physics in the final year. Later chemistry, geology and botany were added and girls were admitted as enrollment grew. It is unclear who taught science or what facilities were available, but they were undoubtedly meager, as the Academy went bankrupt. Carlisle Hall is named in memory of the Superintendent.

The successor **Arlington Training School** opened in September, 1913 and operated for three years. Its President, Henry Kirby Taylor, held AB, AM and LLD degrees from Kentucky Wesleyan College and had taught chemistry there for two years. Military training was continued for the boys. Upgrading the science labs was promised in its second year and accomplished in the third and final year. A building was added at the southeast corner of the 1895 original building and described as the "annex" in the 1924 yearbook *Junior Aggie*. It had two floors, with the lower floor a half sunken basement with windows at ground level. Chemistry, physics, and biology laboratories were in its basement. Taylor quarreled with the board of directors over the construction quality and financing and left Arlington. He subsequently had a long teaching career at Southern Methodist University.

Arlington Military Academy operated for one year 1916-1917, during which the extensive political planning and fundraising that led to state funding for Grubbs Vocational College were taking place. During these troubled early years, enrollment included girls and numbers varied, being generally less than one hundred except for its heyday as Carlisle.¹

Grubbs Vocational College began to operate in September, 1917 under the firm hands of The Agricultural and Mechanical College of Texas administration. This continued the military training mission, introduced technical training and experimental farming, and provided funds for construction and maintenance of the desperately needed permanent buildings. The new brick administration building was finished in 1919 and is still in use, now known as Ransom Hall. Chemistry apparently had a classroom and a laboratory located together on the first floor of the

three story building. There was a room designated "Science" on the second floor, which may have been a common classroom, since no room specifically bears that name. A&M provided stability, with budgets in which every dollar spent had to be justified, and good record keeping. Going forward it is possible to know who composed the faculty, their qualifications and years of service, and something about their duties from information given in the Announcements, Bulletins and some Annual Reports available in the UTA library.²

1917

H. S. Woods was the new Professor of Chemistry and Physics. He had earned the AB and MA degrees at the University of Missouri and served GVC from 1917-1920.

There were a total of 14 faculty members in the college in 1917.

1919

J. M. Barcus, Professor of Chemistry and Physics, BA, Baylor, 1919-1933

John M. Barcus, a native of Georgetown, Texas, had attended Southwestern University, earned a BA at Baylor and had taken "postgraduate" work at "Texas." He had high school teaching experience at Stephenville, Uvalde and Miami before taking up the position at GVC in 1919. He taught both chemistry and physics and was well regarded as a teacher. He said that if one explanation wasn't clear on a subject, he would try another.

The following courses in Chemistry were offered.

101, 102 Elementary Chemistry (2 hours lecture, 2 hours lab per week) Textbook: Chemistry, Kahlenberg and Hart

301, 302 General Chemistry (2-4, 3-2) text not specified

304 Household Chemistry (2-2), Sanitary and Applied Chemistry, Bailey

401 Organic Chemistry (3-2), text unspecified

Summer Normal School for teacher training was initiated, employing some regular faculty and some experienced teachers and administrators from nearby school systems. A chemistry course was offered.

1920

The total faculty was 33 and enrollment reached 178 regular students and 154 disabled soldiers. Physics courses were offered in the Department of Chemistry.

1921

Fall, winter, and spring quarters were designated ABC. The following courses were given.

301 General Chemistry (3-3) A, B, C (full year)

401 Organic Chemistry (3-2) ½B, C (half year)

402 General Geology A, ½B

403 Agricultural Geology ½B, C

1923 North Texas Agricultural College

The name change to North Texas Agricultural College occurred in May, 1923, motivated by a desire to discard the name of Grubbs, from Vincent Grubbs, who had lobbied successfully in the state legislature for founding the college and then was given no role in its operation.

Courses of study and the required courses for each major first appeared in the catalog. A later bulletin reports that these plans correspond to the last two years of high school and first two years of college. That is to say, it was a two year prep school and a junior college. The courses of study were agriculture*, general studies, household arts*, pre-engineering*, manual arts, home demonstration, and business administration. Those requiring some chemistry are marked *.

There were also numerous non-degree short courses that included agriculture, auto mechanics,

machine shop, carpentry, and commercial arts, the latter intended primarily for the women students, and had options of stenography or accounting. The yearbook Junior Aggie began publication.

1924

There were 27 on the college faculty, none holding the PhD. Six held masters degrees, 14 bachelors, and the remainder with no college degree. The latter taught such subjects as foods, clothing, sewing, carpentry, cabinetry, and other shop courses, including auto mechanics. Students in the two years of college were called juniors and seniors.

1925

Harrison A. D. Dunsworth, Asst Prof of Mathematics and Chemistry, BS North Texas State Teachers College (NTSTC).

"Hoss" Dunsworth was also involved in coaching. Not mentioned again in chemistry, he became a long time Head of Mathematics.

Upon his arrival in 1925 as Dean of NTAC, E. E. Davis initiated a purge of both student and faculty deadbeats, as he described them, resulting in dismissal of 102 students in the first year and 23 faculty members within two years. He said that he found some faculty incompetent, some uncooperative. He wanted "virile, competent, young faculty of high attainment and proper educational perspective." He also turned the college away from farming and shop work toward higher skills needed in the developing industries in the area involved in aviation, electrical manufactures and food processing.

1927

Charles B. McDonald, Assoc Prof, Prof 1945, BA Baylor 1927, MA 1933, served 1927-1954 The 1954 Reveille yearbook was dedicated to his memory.

Martha (Woodson) Hughes, wife of Prof W. L. Hughes of Biology, apparently helped out with chemistry labs, but also had a long association with NTAC and Arlington High School, giving physical education instruction including the famous "Walk to Grand Prairie" required of her girls PE students.

1929

College enrollment reached 1181.

The first building designed specifically for science classrooms and laboratories was completed. It was described as "new and beautiful, with ideal lighting, heating, and ventilation, including ceiling fans." It included facilities for chemistry, physics, biology and agriculture. Originally called the Science Building, it is now named Preston Hall and has been extensively renovated with modern windows. It connected to the Roundhouse on its south side, reputedly an arena for showing animals. Its completion finished the three brick structures that we now call College Hall, Ransom Hall and Preston Hall in a line along West 2nd Street, then called Military Walk, and now the main east-west campus mall.

The Roundhouse was converted to a planetarium in the 1970s under auspices of the physics department. It continues to be the planetarium for astronomy course laboratories.

The curriculum in chemistry included general, organic and agricultural chemistry, plus quantitative and qualitative analysis.

1930, Co-Ops

NTAC originated Co-Op courses for part time students featuring practical skills that prepared the student to go directly into local industry. In fact, the school took responsibility for finding jobs for Co-Op students who accepted the two year plan of alternating between schooling

and the job every six weeks. They accepted a reduced wage from the company until completing the program. A Co-Op Club hosted by the "Co-Op Mother" planned social events at the end of each six week school term. There were 370 Co-Op students in 1930.

1933

John T. Murchison, Prof, Emeritus 1975, BA Nebraska 1927, MS Texas 1930, PhD 1933, 1933-1975

The 1961 Reveille yearbook was dedicated to John Murchison.

John Murchison was Head of the department until 1966. At a college in which discipline was a central part of the instruction, he was ready and qualified to require discipline equivalent to that at the A&M campus in College Station. He mellowed after giving up the responsibility for the department and about 1975 provided the following description of the chemistry facilities when he arrived in midsummer of 1933. These comments apply to what was in 1929 the new Science Building, and is now Preston Hall. Chemistry facilities were located on the second floor, where they were originally everything on the south side of the central hall.

"The laboratories contained tables with heavy wooden tops and two tiers of lockers below for freshman chemistry students. The tables for analytical and organic chemistry had small drawers with cupboards below. On the north wall each laboratory had a narrow shelf approximately six inches deep with gas outlets and pull-down glass doors. A single duct about four by ten inches led from these to the roof. The distilled water supply was produced by a single gas-fired still in the east laboratory and stored in a 50-gallon tank below the still.

"The balances for quantitative analysis were on a heavy concrete table between the two laboratories along the south wall of the store-room. Since the doors at the east and west ends of this space were not locked, it was used as a passageway and, it seemed, everyone who walked through played with the balances. Thus, the condition was bad.

"The store-room was a pitiful sight. It contained oak cabinets with wide drawers in the 30" high bases. Above the bases were shelves 8 to 10" deep behind glass doors which, when opened, extended several inches beyond the drawers, so only the small area afforded by the shelves above was available for glassware and chemicals. At the north end of the room, adjacent to the door, was a large soapstone sink with a drain board. There was little equipment in the storeroom and much of it was in poor condition. Piled on top of everything in every possible space were plaster casts, most of them broken, none of them of any value to chemistry, nor as far as could be determined, to anyone on the campus.

"The Chemistry Office was a room just about 10' x 10' which was at the southeast corner off the east laboratory. This contained two desks, a typewriter on a small table and a file cabinet.

"The first order of business was to get the storeroom in decent shape and to try to acquire a stock of apparatus and chemicals adequate to the needs anticipated. As a result, the balance of the summer was spent clearing the debris from the storeroom, removing the cabinets and replacing them with bins which took up approximately the same space as the cabinets had but which provided a tremendous increase in storage space. Adjustable shelving was installed on the west wall of the room from floor to ceiling to provide for the orderly storage of chemicals. The day before registration in the fall of 1933 found the two members of the Department staining the newly installed bins and shelves.

"It was found that students had had free access to the storeroom and had no responsibility for equipment. A system was installed to hold the student accountable for the equipment in his locker and for anything he might draw from the storeroom. Dean Davis was determined to keep

the cost of attendance at NTAC low but finally agreed that each student should be charged for shortages in excess of a given amount. (This changed from time to time.)

"An inventory system was needed as an aid to the taking of the annual inventory and to serve as a record of consumption to permit more intelligent ordering. A system was installed and with minor changes was still in use in 1975.

"A more protected location for the analytical balances was needed. The small room off the southwest corner of the west laboratory was cleaned out and the balances moved there. Later, as the need for additional space became acute, the balances were moved to the third floor and, still later, to the first floor.

"In attempts to improve ventilation, fans were installed on the vents which went to the room, and others were installed to exhaust air through windows on the south wall of the laboratories. A couple of small hoods were installed in the west laboratories and vented through the wall. These additions at least gave notice, through the roar of the motors, that attempts were being made to improve the situation."³

1934

Leo S. Mason, Asst Prof, Prof 1940, BA St Olaf 1930, MS Nebraska 1933, PhD 1934, 1934-1943

1935

Gant Ragland, Curator of Chemistry Laboratory, 1935-1937

As a result of Dean Davis' upgrades, the faculty at NTAC included three with PhDs (two of them chemists), 20 Masters, 17 Bachelors, and ten with no college degree. Enrollment was 1023.

Physical chemistry was an added course. A Chemical Society was formed for the students with John Murchison and C. B. McDonald as its sponsors. It is pictured in the 1936 yearbook, Junior Aggie, with 35 male members in military uniforms and six women members in uniforms resembling nurses' dress. Paul E. Armstrong, NTAC senior in petroleum engineering, was President; A. C. Dudley, senior in chemical engineering, was Vice-President; and Marjorie Popejoy, senior in general studies, was Secretary-Treasurer. Their activities were provided by speakers from various chemical industries, movies depicting chemical processes, and field trips.

1936

Tobias H. Dunkelberger, Assoc Prof, BS, PhD Pittsburgh 1937, 1936-1937

1937

William B. Whitney, Assoc Prof, BA Texas 1933, MA 1934, PhD 1937, 1937-1943

John Murchison, in an oral interview in 1975, was asked where he lived when he first came to NTAC and if they didn't have a Chemistry Row there. He replied that he bought the entire block on the north side of West 2nd Street from Summit Avenue to Davis Drive. He built his home on the west end, Miles Lebo, then Professor of Agriculture, built on the east end and Leo Mason, Charlie McDonald and William Whitney were in between. He also said that his starting salary was \$2000 for the nine month term. Because of the depression the state legislature had reduced the salary of all state employees by 25%.⁴

1940

The catalog gave full academic credentials of faculty for the first time and gave the names of staff for several years, but dropped that in 1964, except for administrators.

Daniel J. Brawley, Asst Prof, BS North Carolina 1930, MS 1932, PhD 1934, 1940-1942

L. Theron Standley, Curator of Chemistry Laboratory, 1940-1942

Mr. Standley was the first full time staff member of the department and was a great addition, according to John Murchison.

1941

Andrew Patterson, Asst Prof, BA Texas 1937, MA 1938, PhD 1941, 1941-2

Chemistry major Jerome Fesperman of Fort Worth was selected Who's Who in chemistry. He worked in the department and stated that if the draft didn't get him he would go to Texas A&M and enter chemical warfare.

1942

G. J. Samuelson, Assoc Prof, PhD, 1942-3

1943

Henry D. Pope, Prof, Emeritus 1975, BA Alabama 1920, MA Texas 1943, 1943-1964.

His wife Berta May Pope was the very effective chemistry teacher at Arlington High School.

1944

Clyde J. Newton, Assoc Prof, BA Baylor 1922, MA 1938, 1944-1945

Annie Phillips, Asst Prof, BS North Texas State College (NTSC) 1932, MS 1938, 1944-1949

H. G. Burman, Assoc Prof, Prof 1948, Emeritus 1976, BS Dakota Wesleyan 1931, PhD Johns Hopkins 1935, 1944-1976. The yearbook Reveille for 1963 was dedicated to Professor Burman.

Professor Murchison had been appointed Head of the Department earlier, which in the A & M system signified a command function not now expected of mere Chairmen. He had been a Major in the infantry reserve and was ordered to active duty when World War II began. He was transferred to Ordnance and sent to the Army Industrial College in Washington, D. C. Completing that course in three months, he was ordered to Baytown, Texas to be the Commanding Officer and Contracting Officer's Representative at the ordnance plant operated by Humble Oil and Refining, which produced 60% of all the toluene for the manufacture of TNT. In 1944 he was transferred to the Lone Star Ordnance Plant at Texarkana and remained there until 1946, when he returned to NTAC. During his absence, first Leo Mason and later Charles McDonald served as Acting Head of the department.⁵

1946

Hugh Dechard McAfee, Assoc Prof, Prof 1970, Emeritus 1976, BS Texas 1929, MS (ChE) 1931, 1946-1975

College enrollment reached 2500 and a course Elementary Chemical Engineering described as "equivalent to the course at Texas A and M" was introduced.

1947

George J. Mandrona, Asst Prof, BS Georgia 1939, 1947-1948

Roy Cozal, Curator of the Chemistry Stockroom, 1947-1948

Warren A. Culbertson, Asst Prof, BS Trinity U 1940, MS Cal Tech 1943, 1948-1949

Elizabeth (Kemp) Russell, Laboratory Instructor, BA Texas 1945, 1948-1950

Warren Culbertson was later in the Physics Department and a long time TV weatherman.

1948

W. W. Matlock, Curator of Chemistry Storeroom, 1948-1951

Mrs. Reggie Lindley, Stenographer, 1948-1949

1949, Arlington State College

William David Compton, Instr, BS NTSC 1948, MS 1949, 1949-1951

Jeanne Hendon, Stenographer, 1949-1950

The institution's name changed to Arlington State College, though it remained a junior college for ten years. There had been local political agitation to get rid of "agricultural" in the name, mission and image. Engineering was to replace shop courses.

1950, Science Building

Dana Jean Cavaness, Stenographer, 1950-1951

D. Kenneth Layne, Instr, BS NTSC 1949, MS 1950, 1950-1951

John Murchison said that Dr. E. H. Hereford, who was the highest official at ASC under the A&M system at the time, sent a memo to all Department Heads asking them to send him a list of their needs for space for their departments. Having learned to do what he was told, he wrote a reply and delivered it to President Hereford, where he learned that he was the only Head who had turned one in. He went immediately to Bill Hughes of Biology and told him to get one in. Hereford immediately decided that the new building to be built would be for Science because "biology and chemistry both smelled and he wanted them out of Preston Hall." The President's well founded experience of smell reflected the use of formaldehyde solution in biology for the preservation and showing of specimens. In chemistry, the occasional generation of hydrogen sulfide H_2S (g), which smelled like rotten eggs, for laboratories where it was used to precipitate the Group II metal ions like Cu and As was even more offensive. However, it was pedagogically important as a tool to convert chemistry's great abstraction, the periodic table, into chemical reality in students' minds. That is, elements had properties which were unique and could be used to isolate, separate and identify them. And it is important to learn to work safely with substances with truly noxious properties.

The new Science Building was completed to the west of Preston Hall and nearly reaching to Cooper Street, completing the solid row of buildings along the south side of West Second Street. Dr. Murchison said that "We designed that building and its addition to make Science Hall."⁶

1951

Helen Elizabeth Harris, Stenographer, and beginning in 1952 also Curator of the Storeroom, 1951-1956

Like a capsule in time, the following report about the Chemistry Department of Arlington State College appears in the Southwest Retort newsletter published by the Dallas-Fort Worth Section of the American Chemical Society in May, 1951. It fits perfectly with the record produced from more abstract sources, but it has details that embellish our understanding of the time.

"Arlington State College, formerly North Texas Agricultural College, is a junior college and a member of the Texas A and M College system. The courses offered by the Chemistry Department are limited to general, analytical and organic chemistry.

"The bulk of the students who attend have professional interests, and are largely engineering and pre-medical. The courses are consequently designed to develop the ability of the student to think, and in the laboratory, to acquaint him with modern instruments and techniques. Safety in laboratory operations is stressed.

"The new Science Building is now in the final stage of being equipped. The entire third floor is devoted to chemistry laboratories, having two general chemistry labs accommodating a total of 840 students, a qualitative laboratory and an organic and quantitative laboratory. A special apparatus room will provide space for semi-permanent set-ups of the more elaborate equipment. A balance room, a small research laboratory, a preparation room and the storeroom

take up the remainder of the floor. Lecture rooms are on the first floor, and will have the usual demonstration and projection facilities.

"The present staff of the department include: Dr. John T. Murchison, Professor and Head of the Department; Dr. H. G. Burman and Mr. C. B. McDonald, Professors; Mr. H. D. McAfee and Mr. H. D. Pope, Associate Professors; Mr. Kenneth Layne, Instructor; Miss Helen Harris, Secretary; and a Curator. Mr. David Compton, Instructor, is on leave of absence and working toward his doctorate at Purdue University.

"All of the members of the department have taken an active part in the planning and developing of the new laboratories and are looking forward to working on projects which they have been unable to start in the past."⁷

1954

Sarah Margaret C. Willoughby, Assoc Prof, Emerita 1984, BS Western Kentucky 1938, PhD (ChE) Purdue 1950, 1954-1984

John Anderson, 1954-5

Azalee Tatum, Secretary, 1954-5

"Of the fine teachers that have been at Arlington State College, none combined more perfectly than Professor Charles B. McDonald of the Chemistry Department the rare talents to be both popular and competent.

"When he was a student here in 1923-1925, he was not only a leader in campus activities, but also the valedictorian of the senior class.

"After graduating from Baylor University, Professor McDonald joined the college faculty in 1927 and taught here continuously until his death on March 2, 1954. During the years of World War II he acted as Head of the Chemistry Department.

"The hundreds of students who have sat in Professor McDonald's classes and worked with him in his laboratory have been impressed with his never failing patience, his understanding of the problems of youth, and his unexcelled ability to relieve tension by comical observations. His value as a teacher can be approximated by the fact that many of his ex-students who are now professional chemists rate Professor McDonald the best science teacher they ever had.

"His faculty associates also are proud of the friendship they had with him and considered him to be the ideal fishing companion-honorable, tolerant, and witty, as all good fishermen should be.

"Thus in recognition of his outstanding contributions to the welfare of the college for 27 years, this edition of the 1954 Reveille is dedicated to the memory of this splendid gentleman and teacher."

1955

Robert F. Francis, Asst Prof, Assoc Prof 1970, Prof 1973, Emeritus 1999, BS East Texas State College (ETSC) 1954, MA 1955, PhD Texas Christian University 1967, 1955-1996. Honors: College of Science (COS) Teacher of the Year 1971 and 1993, Amoco Outstanding Teacher Award 1977, Piper Distinguished Professor 1995, UTA Academy of Distinguished Teachers 1996, ACS Salutes to Excellence Award 2003

Ralph J. Hach, Asst Prof, Assoc Prof 1958, BS Iowa State 1948, PhD 1952, 1955-1958

Beverly Gene (Lamp) Gish, Instr, Asst Prof 1958, BS Texas State College for Women (TSCW) 1948, MA Texas 1954, 1955-1959

Ralph J. Thompson, Instr, Asst Prof 1958, BS ETSC 1954, MS 1954, 1955-1959

Mary Lou (Edmondson) Throckmorton, Secretary for Biology and Chemistry, 1955-1961

Thomas G. Hanning, Storekeeper II, BS Illinois 1951, 1955-1959. Tom Hanning continued at the college for years, working in the engineering laboratories.

Freshman and sophomore courses were listed in Elementary Chemical Engineering, General Chemistry, Organic Chemistry and Quantitative Analysis, along with the introduction of "chemistry lite" courses which had lecture and lab totaling three credit hours, intended for non-science majors.

1956

Carl Wayne Scharf, Assoc Prof, BS Rose Polytechnic 1929, ChE 1934, 1956-1970

R. Donald Lancaster, Instr, BA ETSC 1955, 1956-1960

1957

Fretwell Goer Crider, Asst Prof, BS North Carolina 1945, PhD 1953, 1957-1959

Miles B. Lebo, Asst Prof, BS Texas A&M 1920, MS 1932, 1957-1961

James W. Whalen, Asst Prof, PhD Oklahoma 1950, 1957-1958

Emory C. Hancock, Instr, BA ETSC 1957, 1957-1959

Barbara F. Howell, Instr, BA Minnesota 1946, MS Kansas State 1946, 1957-1961

Miles Lebo began teaching at ASC in 1930 as Professor of Agriculture, specializing in horticulture. When the ag degrees were abolished, he moved to Chemistry and taught laboratory sections.

1958

Russell C. Waters, Assoc Prof, BA South Dakota 1947, MA 1948, PhD Kansas 1952, 1958-1959

Duane L. Altizer, Storekeeper I, 1958-1959

There were 213 in the college faculty.

1959, A College

George H. Denny, Jr., Asst Prof, BS Washington and Lee 1950, MA Johns Hopkins 1951, PhD 1954, 1959-1960

Rayford L. Hoyle, Asst Prof, Assoc Prof 1964, BA Baylor 1952, PhD 1959, 1959-1967

Rosemary (Garrett) Fowler, Instr, BS ETSC 1959, 1959-1963, 1966-1967

James Y. Penix, Storekeeper II, BS Texas A&M 1951, 1959-1960

Nathan Presley, Storekeeper I, 1959-1960

Senior college rank was approved by the Texas legislature on April 27, 1959, with junior courses to begin in September, 1959 and senior courses a year later. A revised catalog was printed, which added a course in inorganic for second year chemistry majors, organic in the third year, physical and advanced quantitative analysis (instrumental) in the fourth.

The chemistry majors in the first class of juniors were Thomas Lexington Bayne, Arlington; Sybil Marton Chew, Dallas; David Eugene Coffey, Fort Worth; David Ramm Hansen, Dallas; Meredith William Jeffcoat, Dallas; Carter J. Knowles, Irving; Gary Upton, Dallas; and Mike Wadlington, Fort Worth.

When Dr. Murchison was asked what his goals were when ASC was a junior college, he said that he wanted "to provide the students the right background to go on to senior colleges. A&M and The University readily accepted our students and they did well there." He added that when the change to a senior college came, it became "to prepare our students to go out and work as chemists. Then, if they were good enough, their companies would come here to hire our graduates, even in tough times. And, if they were prepared to go into industry, they could go into graduate school."⁸

1960

David A. Jeffrey, Asst Prof, BS Acadia (Canada) 1952, MS Arkansas 1957, PhD 1960, 1960-1963

Gerald B. Risinger, Asst Prof, BS Bradley 1955, PhD Iowa State 1960, 1960-1963

Anna Mae Benham, Instr, Asst Prof 1968, Assoc Prof 1973, Emerita 1992, BS Michigan 1945, MS 1947, 1960-1991

Annette LeRoux, Storekeeper I

Ruth Mae Trubey, Storekeeper

The senior chemistry majors, first to graduate with baccalaureate degrees, were Billy J. Bunch, Fort Worth; Sybil Chew, Dallas; David Coffey, Fort Worth; Robert H. Hill, Palmyra, NY; Meredith Jeffcoat, Dallas; Carter Knowles, Irving; Leonard Leonard, Arlington; Don Pritchard, Fort Worth; and Michael Wadlington.

The Chemistry Club, sponsored by Ray Hoyle and Gerald Risinger that year, had all the seniors except Bunch, Coffey and Wadlington as members, plus the following from lower classes, Tim Archibald, Penny Bost, Anita Brown, Arthur G. Cleveland, Jim Duff, Lionel Edmonson, Paul Fugate, Kenneth Godfrey, Edward Mach, Johnny McDaniel, and Barbara Raz.

1961

Alva E. Garrett, Instr, BA Maryville College 1957, MS Mississippi 1959, 1961-1966

Biochemistry was introduced as a new course for seniors, along with Problems in Chemical Research.

The Reveille was dedicated to John T. Murchison with the testament which follows.

"Dr. John T. Murchison came to Arlington State College in 1933. For 27 years, Dr. Murchison has endowed the college with his knowledge, leadership, and prestige.

"Laughingly termed by his associates a 'crusader,' Dr. Murchison has been active in civic and church work apart from his college work.

"Author of the ASC chemistry textbook and articles in scientific journals in the field of chemistry, Dr. Murchison has been recognized by the publications American Men of Science and Who's Who in Education.

"Dr. Murchison came to Arlington State as the head of the chemistry department. Adding work on college committees and department administration to his schedule of teaching, Dr. Murchison has guided the chemistry department through 27 years of growth."

1962

Harold W. Adickes, Instr, BS Stephen F. Austin 1962, 1962-1966

Sybil M. Chew, Instr, BS Arlington State College (ASC) 1961, 1962-1963

Harold Wayne Temple, Instr, BS Southwest Texas State College 1961, 1962-1967

The General Information booklet for 1962, published separately from the catalog, contained an excellent photograph of the original Science Building. An architect's drawing of the addition in progress to complete the U-shape of Science Hall was also provided.

1963

Qualitative Organic Analysis was introduced for seniors.

The dedication of the Reveille to Professor Burman had the following statements.

"A tremendous asset to the Arlington State campus is Dr. Harold G. Burman, professor of chemistry. An ASC faculty member since 1944, he has become an active and well-liked campus figure.

"The busy educator's capable leadership is backed by rich teaching experience. Before coming to ASC, Dr. Burman taught at Beckley Junior College, Beckley, West Virginia, McMurry College, Abilene, Texas, and Southwest Texas State Teacher's College, San Marcos, Texas. He received a B. S. degree from Dakota Wesleyan University and he holds a Ph.D. from Johns Hopkins University.

"In addition to his work in the chemistry department, Dr. Burman heads one division of the Arlington State discipline committee, and he has served as sponsor of Circle K, the college equivalent to the Kiwanis Club. His influence extends far beyond the realm of school activities. Community service is evidenced by his work with Scouts and Dad's Clubs."

1964, Instruction in Science Building

Grover Lee Johnson, Asst Prof, BA Rice 1953, PhD Texas 1960, 1964-1989

Jack Matthews, Asst Prof, BA Texas 1954, MA 1956, PhD 1961, 1964-1968

Clovis Huddleston, Instr, BA Southwestern U 1931, MA 1932, 1964-1976

Thomas D. Gandy, Jr., Instr, BS ASC 1964, 1964-1966

New senior courses were Advanced Inorganic Chemistry and Seminar. Instruction in the old Science Building can be illustrated with two examples.

The lecture hall (SH 121) on the ground floor was in many respects like a small town movie auditorium of the time, windowless, high ceiling, with a floor slanted down to the lecture table. It seated up to 120 in armchair seats fixed to the floor. There was a projection booth at the back used for a movie or a lantern slide projector at the time. Later, Carousel slide projectors were used from a table in the middle of the class, replacing a seat. There was a projection screen at the front as well as movable blackboards in the center and two fixed blackboards on the wings. There was a storage room behind the center blackboards which was full of obsolete physics equipment and miscellany.

The laboratories on the third floor (SH 330, 331, 332) were furnished with standard soapstone top tables with a water gutter in the center as well as utility services (water, gas, electricity) and a shelf over it (bottles of dilute acids and bases). There were cabinets for laboratory equipment (beakers, flasks, funnels, graduated cylinder, and thermometer) checked out to individual students for the semester. For any special equipment (e.g. a buret) students went to the stockroom window and checked it out for the day. When a vacuum was required for suction filtration water aspirators were used, but only two could be used at a time for each table, because the drains would not carry off more water. Any water overflow from the sink crept under the table and fell through to the second floor. There were two hoods along the hall wall, used mostly for reagent bottles appropriate for the day's experimentation.

Each laboratory could accommodate 24-30 students and until graduate study began were taught by professors and instructors. The experiments for general chemistry laboratory sections were a collection of procedures written by faculty members called Experiments in General Chemistry, locally printed, and sold by the bookstore, with profits going to the Department and used for incidental expenses. They supported some scholarship awards. The experiments went unchanged for years, until the 1284 laboratory for two credit hours was originated and Dennis Marynick wrote new more challenging experiments coordinated to the change of general chemistry instruction toward an emphasis on physical chemistry principles.

The storeroom staff did vital service not only in making solutions and equipment available, but also in keeping chemical supplies on hand. Under the A&M system, and for a time later, nothing was bought without obtaining three competitive bids, so there was a great effort

devoted to the annual order placed in the summer for everything needed during the subsequent academic year. The order usually went to one of the national chemistry supply houses with a warehouse in Dallas. Any new reagent ordered during the year had to go out for bids, involving more paper work and delay. This was a hindrance to any kind of innovation, either a change in lab experiments or a research program. This improved after 1967 under the University of Texas System, with more staff, somewhat relaxed financial restraint, and researchers administering their own research grant funds. The Department and indeed the entire University remained a responsible, fiscally conservative agency of the State.

1965, Transfer from Texas A&M to the University of Texas System

The Catalog showed organization of the Departments into two Schools, Arts and Sciences, and Engineering.

Richard W. Blue, Asst Prof, BA Kansas 1927, MA 1929, PhD California Berkeley 1937, 1965-1967

Eunice Bonar, Instr, BA Ohio Wesleyan 1947, 1965-1986

Ruth Ann (Haggard) Burks, Instr, Texas Woman's University (TWU) 1963, MS 1965, 1965-1969

Robert Neal Williams, Instr, BA TCU 1952, MA 1953, 1965-1969

By 1965, the growth of enrollment at ASC and ambition to offer graduate school courses here created stress with Texas A&M officials, who did not budget adequate building and did not want ASC to emerge as a competitor, particularly in the field of graduate programs. Supported by business leaders and legislators from all over North Texas, a bill to transfer ASC to the willing University of Texas System was passed in the legislature and signed by Governor John Connally on April 23, 1965.

Dr. Frank Harrison from the University of Texas Southwestern Medical School in Dallas soon took charge of development of graduate school programs and in the fall of 1966 recommended to the Regents of the UT System that graduate programs for Masters degrees be offered in economics, electrical and mechanical engineering, mathematics, physics and psychology. In the same period new baccalaureate programs were authorized in Liberal Arts and Architecture. ASC became The University of Texas at Arlington (UTA) in March 1967. Diplomas bearing the name were granted May 31, 1967.

The post baccalaureate degrees were awarded in the name of the Graduate School of the University of Texas at Austin until the organization of a Graduate Faculty at Arlington.

1966, University of Texas at Arlington, Early Research

Peter R. Girardot, Prof, Emeritus 2000, BS Detroit 1944, MS 1948, PhD 1952, 1966-2001. Pete was Dean of Science from 1967 until 1974, when he returned to teaching. Honor: AMOCO Teaching Award 1982

Thomas J. Cogdell, Asst Prof, Assoc Prof 1973, BA Midwestern U 1955, MA Texas 1962, PhD Harvard 1965, 1966-1999

Rex G. Dean, Instr, BS Southwest Texas State 1964, 1966-1967

Martha Lynne Hardin, Instr, BS TWU 1960, MS 1962, 1966-1976

There were then four Schools in the organization, Business Administration, Engineering, Liberal Arts, and Sciences.

It appears that ASC students were ahead of the faculty in picking up interest in research here, for writers for the 1965 and 1966 Reveille yearbooks interviewed members of the science and engineering faculties about their research interests. Dr. Murchison was reported to be

directing two students in synthesis of silicones and halogenated thiophenes. In collaboration with H. D. McAfee, he was also using atomic absorption spectroscopy to test for the presence of lead in Lake Arlington water. Dr. Margaret Willoughby was studying crystallinity of polymers.

There is no evidence that these produced significant results, but Dr. Lee Johnson was measuring corrosion rates in oxygenated salt solutions, assisted by senior chemistry major T. W. Freudiger. This work was specifically mentioned by Dr. Donald Jernigan as influential on his medical career and his contributions to fund a scholarship for UTA chemistry students.

Also, Dr. Ray Hoyle was examining the rate of a process for chemical vapor deposition of nickel from gaseous nickel carbonyl complex on surfaces, funded by the American Electroplaters Society. The product was potentially useful in space re-entry applications. Bob Francis states that this work was successful and had been presented in papers at meetings. Unfortunately, it was immediately after traveling to a meeting that Ray Hoyle had a fatal heart attack and died on September 12, 1967. That not only left a young family alone, but ended a promising start in research. It also left the department without his leadership, as he had just become Acting Chairman.

H. D. McAfee became Acting Chairman.

1967

Bob Francis had taken leave from 1965-1967 to complete research at TCU and write the dissertation. When he returned to teaching in the fall semester of 1967, "Mac" asked him to move into an office on "King's Row" on the first floor of the new south wing of Science Hall, between the Chemistry and the Dean's office locations at that time. Mac wanted him to assist with administration of the Chemistry office. Paula Howe was the Secretary at the time and would tell anyone that she read a paperback book a day while doing her duties. That began a long-lasting role for Bob, described as Assistant Chairman. It was informal at the time but subsequently Bob and others who took over the duties later have had the title as well as the work. He planned the schedule of classes in chemistry, managed the registration process to obtain practical class enrollments, planned teaching assignments of faculty and graduate teaching assistants (receiving lots of good advice about that), managed appointments of adjunct faculty and accommodation to their needs, and represented the Department in the absence of the Chairman. If the department had been an army unit, he would have been the Adjutant. This duty lasted, with variations dependent on the successive Chairmen, until his retirement. Bob served as Acting Chairman during the summer of 1978 prior to the arrival of Dick Timmons.

1968, Masters Degree, Postdoctoral Fellows

Andrew T. Armstrong, Asst Prof, Assoc Prof 1973, BS NTSC 1958, MS 1959, PhD Louisiana State (LSU) 1967, 1968-1984. Honors: College of Science Outstanding Science Teacher 1976, Honorary Member and White Helmet Award of the Arlington Fire Department 1977, American Chemical Society Dallas Fort Worth Section Award of Merit 1981, ACS-DFW Doherty Award 1982, ACS-DFW Salutes to Excellence Award 2001

Shirley Chu, Asst Prof, National Taiwan U 1951, MS Duquesne 1954, 1968-1970

Mary L. Johnson, Asst Prof, BS University of Texas at El Paso 1958, MS New Mexico State 1961, 1968-1975

The Chemistry, Biology, English and History departments were authorized to begin studies leading to the MA degree. MBA degrees, MS degrees in Social Work and in several additional fields of engineering were also begun.

Having authority to award a graduate degree opened up opportunities in research. Graduate students could be enrolled in the program and awarded fellowships that provided a stipend either for teaching laboratories or for work in a research program. Their hands and minds multiplied the productivity of faculty members engaged in research. Research grants could be applied for and won, providing funds to acquire equipment and chemical supplies or to support the work of students. Pete Girardot brought the first two postdoctoral fellows to Chemistry to undertake his highly technical work in Mossbauer spectroscopy of iron compounds. The first of these was Dr. Milan Schara from the Nuclear Institute at Ljubljana, Yugoslavia, who arrived in 1967. He was succeeded by Dr. Edwin J. Louis in 1970. Also in 1970, Don Martin brought post-doc R. V. Tsina to his laboratory to do research involving gold compounds, sponsored by the United States Air Force Office of Scientific Research and the UTA Office of Sponsored Research. Their objective was to discover electrolytes for gold plating that are less dangerous than cyanide complexes. Availability of grants was very beneficial in recruitment of faculty, both those at the Assistant Professor level in their first academic position and the seasoned appointments who came as Professor or Associate Professor.

The most dependable grants for research were those from the Robert A. Welch Foundation, which provided grants for research specifically in chemistry and located at Texas institutions of higher learning. These grants permitted new faculty members and those new to Texas to make an immediate start to a research career, and were renewable to those who succeeded in publishing papers reporting their discoveries in recognized journals. Some of the first grants to UTA faculty members are listed following.

Investigator	Title or Subject
Grover L. Johnson	Inhibition of Corrosion of Iron in Oxygenated Salt Solutions
Peter R. Girardot	Mossbauer Spectra of Alkali Metal Tetrachloroferrates (III)
Thomas J. Cogdell	Orbital Symmetries and Anchimeric Assistance
Robert F. Francis	Reactions and Mechanisms of Alkylpyridines and Dihydropyridines
Andrew T. Armstrong	Molecular Spectroscopy Studies for Oxyanion Salts
Donald R. Martin	Molecular Adducts, Derivates and Reactions of Borane Lewis Acids
Andrew L. Ternay	Structure and Reactivity of Thioxanthenes and 9-Alkylidenethioxanthenes
Edward Bellion	Chemistry of Methylotrophic Metabolism
W. A. Baker	Polynuclear Metal Complexes
Daniel M. Blake	Calorimetric Study of the Oxidative Addition Reaction
Richard B. Timmons	Atomic Resonance Fluorescence Studies of Novel Reactions Involving O(³ P) Atoms
Dennis S. Marynick	Theoretical Studies of Inorganic Molecules
Zoltan A. Schelly	Relaxation Kinetics of Reverse Micelle Systems
Martin Pomerantz	Free Radical, Thermal, and Photochemical Reactions of Benzonorcaradienyl and Benzotriptyl Systems
Kenneth L. Brown	Quantitative Assessment of the beta Effect in Carboxylalkylcobaloximes

The courses initiated for graduate study in chemistry follow.

5301 Advanced Physical Chemistry	5303 Selected Topics in Physical Chemistry
5305 Advanced Organic Chemistry	5307 " " Organic Chemistry
5311 Advanced Analytical Chemistry	5313 " " Analytical Chemistry
5315 Advanced Inorganic Chemistry	5317 " " Inorganic Chemistry
5389 Problems in Chemistry, 3 hrs, repeatable with permission, and 5698 Thesis, 6 hrs	

Some undergraduate courses could also apply to graduate programs for students who had not had them, among them Quant, Physical Chemistry, Biochemistry, Qualitative Organic Analysis, Advanced Quant, and senior inorganic.

Pete Girardot was active early in causes now called "green earth," both in the university and local government. He did measurements of air and water purity and advocated reduction of pollutants found there, as well as recycling and reduction of solid wastes. This was well received by students of the time. The environmental movement since then has generally prospered. Pete became Dean of Science in 1967 and served the university in that role until 1974.

1969

Donald R. Martin, Prof, Emeritus 1989, AB Otterbein 1937, MS Western Reserve 1940, PhD 1941, 1969-1987

Andrew L. Ternay, Assoc Prof, Prof 1978, BS City College of New York (CCNY) 1959, MS New York University 1962, PhD 1963, 1969-2001

Don Martin was the first to hold the title Chairman of the Department. Under the University of Texas System, much more democratic processes were followed. There were faculty meetings in the department in which discussion of substantive matters occurred before decisions were made. Under A&M, decisions were made by officials and announced to faculty. Who to interview for positions and selection among the candidates were decisions made this way. There were also periodic reviews of the performance of Chairmen and Deans, which had consequences influenced by the faculty of the Department.

The PhD degree in Engineering was authorized. The Chemistry MA list of allowed undergraduate courses was reduced, eliminating the more elementary courses like sophomore level quant. It may be noted that enrollment in graduate level courses, numbered 5000 and higher, produced a higher payment per semester credit hour by the state formula than did undergraduate course enrollment.

1970, Instrumentation for research

Edward Bellion, Asst Prof, Assoc Prof 1976, Prof 1991, Emeritus 2010, BS Leeds (England) 1965, PhD 1968, 1970-2010

Daniel M. Blake, Asst Prof, Assoc Prof 1976, Prof 1980, BS Colorado State 1965, PhD Washington State 1969, 1970-1982

Lanny M. Casey, Asst Prof, BS Harding College 1965, PhD LSU 1969, 1970-1976

It may be assumed that equipment for volumetric and gravimetric analysis was long available in the chemistry department, though probably used only for teaching. Remember that the new Science Building in 1950 had a balance room, which is nostalgic to the writer. Imagine the row of analytical balances on a bench along the wall and counting swings of the pointer. However, post World War II, instrumentation based on physical properties of materials was rapidly introduced in industry and gradually made its way into academic research. In 1955 the Dow Chemical Company Texas Division routinely did mass spectrometry (ms) as well as ultraviolet (uv), visible (vis) and infrared (ir) spectrometry on instruments located in a central laboratory, operated and interpreted only by the staff analytical chemists. The results were used in adjusting control of the manufacturing process, assuring quality in product loaded in tank cars, and evaluating research results.

At the University of Texas in Austin at the time there were instruments of these kinds and some others used in the instrumental analysis course laboratory essentially as demonstrations. Research groups there were in the process of acquiring and learning to use instruments for their

problems. There was one gas-liquid chromatograph (glc), which the writer had to get permission, and a little instruction, to use.

At Harvard in 1963 things were farther along. Every research group had its own instrumentation. Graduate students and postdoctoral fellows were actively helping each other learn to use it and interpret results. Success in cumulative exams was absolutely dependent on keeping up in this. Still, there was only one 60 MHz proton nuclear magnetic resonance (nmr) instrument there, operated 24 hours a day, for which the learning process was to watch other students for some time and then get "checked out" by the technician who kept the machine running. Then, you could sign up for a time, possibly after midnight or the next day, to run the nmr spectrum of your mystery compound. Incidentally, there was also an IBM 1620 computer, located in the foyer of Mallinckrodt Laboratory, with a punch card reader. You could get a set of punch cards duplicating some one else's program and learn how to make your own data cards, for kinetics experiments, or whatever.

At ASC/UTA at the transition time instrumentation was acquired to meet the needs of new hires, the minimum needed for the research program that they planned. When ordered and received it would be located in their research space, but its use was shared with others who needed it, and particularly with the laboratory students in the course in instrumental analysis. The following is a chronological list of quality instruments newly acquired and the responsible faculty member. The first two were in place before 1966 and would have been useful to Ray Hoyle, Lee Johnson, and others.

Beckman DU uv-vis spectrophotometer

It was manual. You set the wavelength and read per cent transmittance. However, it was sensitive and accurate and if you spent an hour you could take readings at enough wavelengths to plot a spectrum of the sample or analyze the concentration of a selected ion in parts per million.

Perkin-Elmer 303 atomic absorption spectrometer

It provided exceptional sensitivity to concentrations of specific ions.

1966 Girardot

Mossbauer spectrometer, multichannel analyzer for iron isotopes

Faraday balance

1966 Cogdell

Varian Aerograph glc with packed columns and thermal conductivity detector

It could be used either for analysis or purification on a small scale.

Hewlett Packard glc with packed columns and flame ionization detector

This had high resolution and high sensitivity for analysis of volatile organics.

Perkin Elmer 137 ir recording spectrometer

You could get standard ir spectra of organic samples as solutions or KBr pellets.

1968 Armstrong

Cary 14R near ir, vis, uv recording spectrometer

Fluorescent emission spectrometer

1969 Ternay

Varian 60 MHz nmr spectrometer

This was in a third floor room and operated by all groups.

Varian HA-100 MHz nmr spectrometer

This was located in the fourth floor penthouse and operated by Ternay students.

Scanning polarimeter

1970 Blake

Perkin Elmer 621 dispersive Fourier transform ir spectrometer

This was useful for inorganic substances.

DuPont differential scanning calorimeter (dsc)

Used to determine melting points and phase transition temperatures.

1971 Bellion

Beckman LS 230 liquid scintillation counter

Pharmacia liquid chromatography uv detector and fraction collector

Later, really specialized instruments for nmr, ms, esr, and other magic were identified as departmental instruments when acquired and got a room of their own, more or less.

From the time of his arrival in 1968 Andy Armstrong was given responsibility for the instrumental analysis course and, to some extent, for troubleshooting problems with instruments. With Lynne Hardin as the laboratory instructor, their intent was for the senior students in the class to learn to use every instrument in the department that was not "reserved" to its host laboratory. A few instruments in the physical chemistry laboratory were added to those listed. When Ann Benham was interested in the criminal justice program, Andy, Lynne and their students designed a crime lab as a written project. By contrast to the foregoing, that seems oh so modern.

1971

W. A. Baker, Prof, Emeritus 2005, BS Texas A&I 1955, PhD Texas 1959, 1971-1995

Donald S. Wiggans, Adjunct Prof, BS Nebraska 1949, PhD Yale 1952, 1971-1979

Bill Baker earned his doctorate at UT Austin in the laboratory of Bill Watt. He was recruited from Syracuse University to be Dean of the Graduate School and work to expand UTA's graduate program. He was named Acting Vice-President of Academic Affairs when Wendell Nedderman became Acting President in November 1972. The appointment became permanent in April of 1974.

Bill remained active as a colleague in teaching during his years in administration, usually in the general chemistry course but on occasion in the graduate inorganic course. The W. A. Baker Chemistry Research Building is named for him. In 1972, he was quoted as follows in an interview for the Reveille.

"The Graduate School represents one of the fastest growing components of the University of Texas at Arlington. From a beginning of seven master level programs in 1966, graduate programs have increased to 24 masters and 2 doctorate programs.

"The first graduate programs were developed along traditional academic lines. More recently, however, there has been a distinct shift toward programs that cut across traditional departmental boundaries.....exemplified by the MS in Material Science....."

Don Wiggans was the first of several visiting and adjunct professors who served the department then and in subsequent years to provide expertise, link programs in biochemistry to the Southwestern Medical School, or to teach basic courses, often evening classes.

1972, ACS Relations

New courses entitled Chemical Literature, Air Pollution, Solid Waste Pollution, Electroplating, Advanced Synthetic Methods (half organic, half inorganic) and Chemistry for Science Teachers were introduced.

On March 23, 1972 a chapter of Sigma Xi, The Scientific Research Society, received its charter at UTA, with ten Chemistry faculty members among the charter members. Including

engineers as well as pure scientists, this organization is more honorary than active. Its principal function was to elect a few promising graduate students, who had at least one publication, to membership each year. But it also served to bring engineers and chemists, for example, into contact, so that some interdisciplinary research projects were conceived and executed. A Sigma Xi Club had been organized at ASC on February 21, 1964. Margaret Willoughby, as President of the Club, attended the first National Meeting of Sigma Xi on October 1, 1967. Don Martin and Bob Francis have each served as President of the chapter.⁹

The curriculum was now sufficient to meet the requirements for a professional baccalaureate degree in chemistry. A visiting committee from the American Chemical Society made an inspection visit in 1971 and brought forth a favorable conclusion. Since 1972 the BS in Chemistry at UTA has been an ACS certified program. The BS in Biochemistry received ACS certification in 2001.

Members of the Department have long participated in the programs of the Dallas-Fort Worth Section, as well as attending and presenting research results at regional and national ACS meetings. The Department has hosted one monthly meeting annually for many years, at which there is a social hour, dinner, and a talk on a selected subject in chemistry or chemical education. Members of the Section include academic and industrial chemists. Tom Cogdell and Tom Strom have been Chairman of the Section, as well as holding other offices.

The Section presents the Wilfred T. Doherty Award annually to honor a member in the area who has done research of high quality, advanced chemical education, or advanced the profession in local industry. UTA chemistry faculty members who have won the award are Andy Armstrong, Zoltan Schelly, Dennis Marynick, Krishnan Rajeshwar, Marty Pomerantz, Dick Timmons, and Rasika Dias.

The UTA Chemistry Department often hosted one-day training programs under the auspices of the DFW Section for students, faculty, and professionals from all over the area, to teach the capabilities and operating techniques for the latest in chemical instrumentation. The central location of Arlington was important to our earning this role. Vendors loaned the newest available equipment and brought in company experts to teach the principles and demonstrate the instrumentation. Andy Armstrong organized these programs.¹⁰

The Dallas-Fort Worth ACS Section sponsored annual Meetings in Miniature in which students at the colleges in the area could present research papers in the fashion used at the national and regional meetings of the society. There were undergraduate and graduate divisions of the program, lasting through the day. The participants gave their research talk before a small audience and judges ranked the presentations for an award ceremony at the close. UTA was host of the meeting periodically and many UTA students participated, whether at home or away, many of them winning high places.

Students at UTA have the opportunity to join a Student Affiliate chapter of the ACS. This group has flourished when the student leaders were dynamic and faltered when they were less enthusiastic. Activities of the group have consisted of occasional meetings for pizza and a talk and volunteering to help tutor other students at the Chemistry Clinic.

1973

The BA degree in chemistry was introduced, intended to prepare students to enter medical or dental schools, other health professions, or who desire to obtain a teaching certificate with a teaching field of chemistry or secondary school physical science.

Composition of the Graduate Assembly was decided, with Science getting four of the twenty seats. There were 73 full members of the Graduate Faculty and 197 associate members.

"Continued graduate program development will enhance this as an academic center. We are still working on our image. However, I don't think we really have any image yet. The most important thing is to develop the quality of education and the other will come later." W. A. Baker, Vice President for Academic Affairs, 1972 Reveille.

1974, Doctoral Degrees

O. A. Battista, Adjunct Prof, BS McGill (Canada) 1940, ScD St Vincent 1955, 1974-1980

New Courses were Chemistry Man and Society, Forensic Chemistry, Forensic Analysis and Polymer Chemistry.

When consideration of UTA offering a doctoral program in chemistry began, it was thought that the Coordinating Board for higher education programs in Texas would make it difficult. Their charge was to avoid the expense to the state of offering new advanced degrees that duplicated programs available at other institutions in the same area. At the time TCU and UNT both had the PhD degree in chemistry. UTA and the University of Texas at Dallas (UTD) were both ambitious and had the same anticipated problem, a need to create something new, even different from each other.

UTA proposed and received approval for a PhD in Mathematical Sciences in 1974. To this degree program was added in 1980 a list of optional fields that besides mathematics included chemistry, as well as computer science, physics, psychology, and systems analysis. This degree was styled the PhD in Mathematical Sciences/Chemistry Option. At the beginning, it was recommended that thesis committees include graduate faculty from UTD and from the University of Texas Health Science Center in Dallas. A local committee consisting of one member from each of the departments in the program governed the program, accepting candidates, approving courses, thesis committees, and degree plans. It was not listed under the departments in the Graduate School Catalog, but under Interdepartmental and Intercampus Programs. Other departments including biology, geology, and fields of business and engineering have been added since 1980.

Zoltan Schelly was the representative of chemistry from the beginning to the present, and also the Graduate Advisor for the chemistry option students. The program required its graduate students to take 15 credits in graduate mathematics in addition to at least 15 in their major department. There was a comprehensive oral examination. The degree was recommended for students intending to have "research and teaching careers involving theoretical and mathematical chemistry." It never became popular but some graduate students with exceptional ability completed the program. Dean Astumian completed his work under Zoltan Schelly in 1983 and is now Professor of Physics at the University of Maine. Dean had seven members on his thesis committee, four of them Japanese from the institute in that country where he did some work.

A degree of Doctor of Science (DSc) in chemistry, designed for graduate students interested in industrial careers in research was first offered in Fall, 1982. This degree required an internship of a semester in an industrial laboratory. A program for an individual student would have an area of emphasis (analytical, biochemistry, inorganic, organic, physical or polymer) and a lesser number of courses in other areas. It initially required passing a series of cumulative examinations and knowledge of a computer language.

The DSc in Applied Chemistry was replaced by a PhD in Applied Chemistry in August, 1993 which retained the original requirements. The change was intended to improve recognition

of the resulting degree. This problem in perception can be exemplified by a disadvantage in recruitment of graduate students, who might not understand the level of the DSc, and a perceived difficulty for DSc graduates seeking employment who might have to explain that a DSc and a PhD are equivalent. In September 2003 the PhD in Applied Chemistry was officially changed to simply a PhD in Chemistry. Subsequently the four required applied courses were dropped from the requirements, including the one on patents, which was well regarded by students, leaving only the internship as a requirement beyond the coursework and research.

1975

Kenneth L. Brown, Asst Prof, Assoc Prof 1981, Prof 1987, BS Chicago 1968, PhD Pennsylvania 1971, 1975-1991

1976

Martin Pomerantz, Prof, BS CCNY 1959, MS Yale 1961, PhD 1964, 1976-2011. Honors: Alfred P. Sloan Foundation Fellow 1971, ACS Doherty Award 1997, University Distinguished Record of Research 1997

Michael L. Denniston, Instr, BA Knox College 1966, MS Ohio State 1968, PhD 1970, 1976-1977

Albert A. Kamego, Instr, BS Wayne State 1964, MS California State Long Beach 1968, PhD California Santa Barbara 1974, 1976-1978

Hsien-Kan 'Shirley' Chu, Instr, BS National Taiwan University 1970, PhD Vanderbilt 1976, 1976-1978

Robert L. Dowben, Adjunct Prof, AB Haverford College 1946, MS Chicago 1947, PhD 1949, 1975-1979

The BS in Biochemistry degree was offered jointly with the University of Texas Southwestern Medical School in Dallas, which gave the senior year instruction.

1977, Teaching and Research in Science Hall

William N. White, Prof and Chairman, BA Cornell 1950, MA Harvard 1951, PhD 1953, 1977-1978

Zoltan A. Schelly, Assoc Prof, Prof 1983, BS Vienna Technological University 1962, DSc 1967, 1977-2011. Honors: UTA Award for Distinguished Research 1982, ACS Doherty Award 1986

Professor White came from Vermont and returned there after just one year. But during the year, he reformed the department by thorough study and reassignment of research space, which was scarcely adequate, giving the larger laboratories to those with the larger and more productive groups. A Chairman could not make the problems with the facilities go away, as the following discussion will show.

The addition to the Science Building completed in 1965 was connected to the west end of the 1950 structure, extended south beside Cooper Street, and turned east to complete a U-shape, with a basement and three floors above ground in the new part. Capping the east end were two large classrooms at ground level (SH 100 and 101). The addition was air conditioned while the old part, separated only by swinging doors in the halls, was not air-conditioned until 1980 when a major renovation of the old Science Building was done that provided air conditioning and some improvements of utilities and appearance. By the fall semester of 1966, the departments of biology, chemistry, physics, psychology and part of mathematics were housed in the combined Science Hall (SH), as well as the office of the Dean. Most faculty members shared an office with a colleague.

SH 100 was the general chemistry lecture hall, used also for other large gatherings such as College of Science faculty meetings and ACS section meetings. It had a quarter-circle of 198 seats in nine rows, each slightly elevated above the row in front of it. The lecture table had a sink and utilities and there was a separate prep room behind it in which demonstration equipment and supplies were kept. There were sliding blackboards and a projection screen in front and a projection booth in back. There was a sound system available but not often used, as an experienced lecturer had no trouble projecting voice to the nine rows. This room has been satisfactory and remains the site of large general chemistry sections to the present day.

Elsewhere there were small and intermediate size class rooms throughout the new wing. Mathematics at the time took pride in having no section of a mathematics course larger than 25 students, so lots of small classrooms were thought necessary. There were laboratories designed for quantitative analysis and organic lab sections, while general chemistry and a variety of other specialized course laboratories continued to be held in the old wing. Other than that there were several laboratories with tables suitable for instrumentation and some wet chemistry, but few hoods. The A&M design did not allow for experimental research.

By the 1970s, as the departments other than Chemistry and Physics moved to new buildings built for them, conversion of some small classrooms to much needed research space for inorganic and organic chemistry was undertaken. New organic research labs created on the third floor had two hoods in the center, lattice racks beside the hoods, working, storage, and instrument space around the walls. and a few student desks. Professor Ternay's research group occupied the unique space of the "penthouse" on the roof, two laboratories and an instrument room.

Over the years as large "departmental" instruments, for nuclear magnetic resonance and mass spectrometry, for example, were added to the department's arsenal, a room would be cleared of seats for each of them. Eventually, a tipping point was reached and then exceeded when too many hoods had been installed and air handling could not be balanced. The building was under a slight vacuum. Hot air whistled in at doors and humid outside air diffused through the walls to support mold colonies living in cabinets built against the outside walls.

The Reveille yearbook of 1981 reported the situation as follows. "The Science building built in 1949 was becoming mortally dangerous: a faulty ventilation system, malfunctioning fume hoods and poor fire detection system were only part of the problem.

"The ventilation system was pressurizing classrooms instead of hallways. New motors needed to be bought, fans replaced and the ducts cleaned.

"Out of 58 fume hoods, 50 hoods did not meet up to safety standards.

"Emergency lights didn't exist in the basement. Better fire and burglar detection was necessary along with a complete sprinkler system.

"Reconstruction was a necessity.

"The trouble areas were taken care of with \$3.5 million of funding.

"During all this remodeling, students still attended classes. The basic chemistry lab experiments were conducted by lab assistants instead of students. Science majors could become involved with a research project under a faculty member. One student who worked with Andrew Ternay on the fourth floor had to postpone an experiment because of lack of water pressure; it was all being used by organic chemistry students on the third floor."

New and better research space was needed, but would not be available until the W. A. Baker Chemistry Research Building was completed in 1995.

1978, Chemistry electives, Premedical Student Advising

Richard Timmons, Prof and Chairman, BS St Francis Xavier (Canada) 1958, PhD Catholic U 1962, 1977-present. Honors: Chancellor's Outstanding Teacher Award 1983, ACS Doherty Award 2000, UTA Distinguished Faculty Research 2001, Distinguished University Professor 2007, UTA Academy of Scholars 2007

Dennis S. Marynick, Asst Prof, Assoc Prof 1983, Prof 1987, Emeritus 2005, BS Cal State Los Angeles 1969, MA Harvard 1971, PhD 1973, 1978-2007. Honors: College of Science Teacher of the Year 1979, UTA Distinguished Research 1988, ACS Doherty Award 1988, UT System Ashbel Smith Professor, Jenkins Garrett Prof 1996

Bobby G. Smith, Adjunct Prof, DO Kirksville College of Osteopathic Medicine 1962, 1978-1987.

E. Thomas Strom, Adjunct Prof, BS Iowa 1961, MS California Berkeley, PhD Iowa State 1964, 1978-present. Honors: Fellow of the American Chemical Society, ACS Chairman-History of Chemistry Division, ACS Councilor, ACS-DFW Doherty Award 1989

A number of innovative new courses were introduced which were intended to attract registration of students whose majors were neither in science nor engineering. These were either one or two semester hours credit each, from which a liberal arts student, for example, could select six hours to fulfill the requirement of science electives, including the requirement of laboratory work. They were, in brief: Photography, Photography Laboratory, Gardening, Energy Problems, Drugs, Food Additives, Winemaking (with a lab!), Consumer Products with lab, and Environmental Problems. Bobby Smith besides his medical practice made wine at his vineyard near Springtown and sponsored wine tasting sessions. Like the physics course in astronomy whose attraction to students was imitated, these "new age" courses drew respectable enrollments and brought students into the halls who were interesting and creative.

Creation of these electives took advantage of interests of several of the faculty members. Bob Francis and Ann Benham had expertise in photography and interest in its applications in law enforcement, which tied in with a program in criminal justice. Pete Girardot was interested in energy supply, pollution sources, and winemaking. Andy Ternay, the 'father of the non-science major courses' had the knowledge to teach about the effects of drugs and the consumer's dilemma of food additives. Eunice Bonar taught the consumer products course and Marilyn Marynick taught chemistry of gardening.

In another example of how members of the department were involved in the community, Andy Armstrong and wife Kay founded Armstrong Forensic Laboratory in 1978, originally to analyze samples from arson investigations in Arlington. He published a pioneering paper in the Journal of Forensic Science on identification of fire accelerants by capillary gas-liquid chromatography. The Laboratory now also has expertise in environmental analysis and industrial health investigations. Andy has participated in the formulation of forensic science standards for the ASTM and presented results of his analyses in courts where he testified as an expert witness in 21 states and four other countries.

A few of our chemistry majors went on to medical schools and became doctors and researchers. However, most of the pre-med concentrators chose other majors, biology being the most frequent. These students took general and organic chemistry, where they often distinguished themselves either by their success as students or their striving to make the grade. Bob Francis has written the following with regard to the path the successful ones followed.

"Until the late 1970s, advising for health professions students, primarily premedical and pre dental students, was handled by a faculty member in the Department of Biology. Weldon Brewster served in that capacity for many years, followed by Frank Gladden.

"Around 1979, the new position of Health Professions Advisor was filled by an administrator rather than an academic and the position was placed under the jurisdiction of the Dean of Science.

"The Health Professions Advisory Committee, composed of about twelve faculty members from various disciplines, was formed by the first HP Advisor around 1980. Its purpose was to assist the HP Advisor in coordinating and implementing the program at UTA. Its primary function, however, was to generate a committee recommendation for each applicant based on an interview with the student by an HPAC member, to be considered alongside the student's academic record and activities."

Don Martin, Dick Timmons and Bob Francis each served on the HPAC committee for many years and Bob Francis was committee chairman from 1986 until 1996. Our premedical students were well prepared for admission and training in medicine. Records from 1978 to 1981 showed that UTA pre-med students with chemistry or biochemistry majors had an acceptance rate of 80%, compared to a rate of 65% for all majors.¹¹

1980, Graduate Faculty

Marjorie F. Lou, Research Associate Professor, BS National Taiwan 1960, MS Virginia Polytechnic 1962, PhD Boston University 1966, 1980-1982

The Science Learning Center was established under the auspices of Dean Howard Arnott, with participation of Ann Benham from Chemistry and Bill McCrady from Biology. Students could access course materials, such as lecture notes, sample tests, audio-visual and (later) computer-based resources, and tutors. Ann Benham had earlier been important in establishing the Science Career Facilitation Center, promoting summer courses for science teachers and activities to recruit women students to science. This included a Women in Science Program re-entry course for women who had a degree in science and needed an update for time missed due to raising children or employment outside of science, and finished with employment assistance.

When the graduate program for the MA degree was first organized in 1966, the degrees were to be awarded in the name of the Graduate School of the University of Texas at Austin until a Graduate Faculty was organized at UTA. Dr. Frank Harrison of the University of Texas Health Science Center in Dallas was assigned the task of getting graduate study organized at UTA. When the MA in chemistry was authorized in 1968, all of the members of the chemistry department faculty of professorial rank were initially included in the graduate faculty. That is, they were given a chance to begin their research program. This was generous, but unrealistic. After two years passed without activity, some of the faculty members who were long removed from their own graduate study were taken off the list. Others were allowed more years to prove themselves by publications and, failing that, were removed from the department's Graduate Studies Committee which consisted of all of the graduate faculty members.

Meanwhile, each of the new hires were also placed on the graduate faculty and given their chance. Some of them were experienced faculty and proven researchers and came as Associate or full Professors. They were productive. But some who came as Assistant Professors thereafter also proved themselves by accomplishing all of the steps needed for success in research. That is, by scholarship in their field to enable them to write good proposals and secure funding, recruiting students to their laboratory, inspiring those students to think of means to

discover new kinds of chemistry by experiment or calculation, write a meaningful thesis or dissertation, and publication of the new chemistry in appropriate journals.

Bob Francis has stated that when Don Martin was made the first Chairman of the department when he was hired in 1969, he was charged by the administration with the task of getting the graduate program organized and productive. He did in fact talk to junior faculty to encourage submission of their results for publication as soon and as often as possible. By chance, Andy Ternay, hired in the same year, also took a strong role. As a member of the University Graduate Studies Committee and Chairman pro tempore for a time, he took it on himself to prod others with pointed advice to swim or else they would sink.

By 1980 the graduate faculty was composed of the following research chemists, organized by disciplines to indicate coverage of major divisions of chemistry.

Biochemistry: Ed Bellion, Ken Brown

Inorganic chemistry: Bill Baker, Dan Blake, Pete Girardot, Don Martin

Organic chemistry: Bob Francis, Marty Pomerantz, Andy Ternay

Physical chemistry: Zoltan Schelly, Dick Timmons

Theoretical chemistry: Dennis Marynick

Appointments in analytical and polymer chemistry came later. Bill Baker, Pete Girardot, and Don Martin were also in administrative posts.

The consequences of not qualifying as graduate faculty were an increased teaching load and greater efforts in service to the department. The former could be a 12-hour class load or assignment to coordinate multi-section laboratory courses, planning, training teaching fellows, giving briefings, checking the stockroom preparations and safety. An example of the latter is the writer's service as chairman of the University Parking Appeals Committee for two years. This required scheduling panels of faculty, staff and students to hear others of their kind explain why their car was ticketed for being in the wrong place. Employees as well as students pay for the right to park in university space and are treated as equals by the university police.

Another example of a service obligation is Andy Armstrong's experience on the University Computer Committee. UTA had separate computers for business (think registration, grade records, salaries, contracts.....) and academic computing (teaching and research). While separation of their operations was good security, the fact that they were obtained at different times from different manufacturers entailed added expenses for programs, ancillary equipment, and supplies. Furthermore, someone in authority thought that the three components of the University of Texas System located in North Texas should coordinate their plans. When the members of the UTA committee were appointed, Andy was listed first in the alphabetical order of names and designated acting chairman for the first session, at which the committee would organize. Inevitably, the committee elected him chairman. Then it happened again in formation of the UTA-UTD-UTHSC joint committee. Andy says that there never was a more impartial chairman, since everybody there knew more about computers than he did.

1981

Ed Bellion was the director of the Summer National Science Foundation Research Program in which ten undergraduate students from area colleges were selected to do individual research in the laboratory of a chemistry faculty member. The students received a stipend of \$1200, did their research in the lab of their choice, gave an oral report and seemingly had an interesting social life with opportunities to visit many attractions around Arlington. This program was repeated in subsequent years.

In November the site visit to review the proposal for a Doctor of Science in Applied Chemistry was conducted by a team of five eminent chemists representing industry and academe. The recommendation of this committee was favorable in a report in early 1982. The program was offered beginning in the fall semester of 1982.

Due to Margaret Willoughby's reporting in ChemSpek, we know that there were 23 chemistry graduates in 1981, six with BS in chemistry, nine BA in chemistry and eight BS in biochemistry.

1982, Safety

Laboratory safety instruction was based first on emphasizing whatever was printed in the lab textbook, modified to some extent by professors teaching lab sections or assigned to coordinate labs. The professors were in turn informed by their own experiences in the research programs at the major universities where they were trained. All of these operations generally fall short of the safety programs of major companies in chemical industry. The program was communicated to Graduate Teaching Assistants in weekly meetings, where any special hazards anticipated for the weeks' scheduled procedure were also discussed.

The shortcomings were revealed when an organic laboratory section being held in the quant lab was the location of a flash fire in 1973-4. Several students were burned, one severely. The university safety office became involved much more with renovations already underway, causing additional improvements to be made.

More attention was directed to the effectiveness of laboratory fume hoods throughout the building, which were tested for draft regularly.

Material Safety Data Sheets were made accessible to students via the stockroom so that students could inform themselves about specific properties associated with any laboratory chemicals.

A new storage building for cylinder gases and bulk chemicals was built in the central U of Science Hall.

A realistic training session was held in the first week of fall semesters to train faculty, staff and graduate students in the use of fire extinguishers on live fires in a safe outside open space. Lesson objective number 1: Pull the pin on a CO₂ fire extinguisher before you squeeze the handle.

Science Hall had smoke detectors installed throughout the building and connected to an alarm system. Thermally fused sprinklers were installed in laboratories. The alarm system display panel of the location of activated alarms was mounted on the wall of the south entry foyer, immediately outside of SH100. When an alarm sounded during a lecture, you could quickly check the panel to learn the location indicated and decide whether to continue the lecture or dismiss class. The most frequent smoke source over many years of experience with the system was the physics shop downstairs.

Safety officers responded to all alarms and were quite sensible in their judgment of what to do, within the discretion granted them.

However, the disruption caused by false alarms revealed the folly of locating large classrooms anywhere near active instructional and research laboratories.

Still more disruptive were bomb threats phoned in to campus telephone operators and offices. This generally occurred when there was a major test imminent or in progress. There was no question that you had to evacuate the building, but sometimes a class or test already in progress was continued outside around the flagpole in the center of the Library Mall. "All Clear"

signals from University Police were usually given within an hour after a bomb threat, which was little more time than it took to walk the halls.

1983

Douglas M. Ho, Asst Prof, BS Hawaii 1975, PhD University of Southern California 1981, 1983-1985

Krishnan Rajeshwar, Asst Prof, Assoc Prof 1989, Prof 1991, BS University College Trivandrum India 1969, MS Indian Institute Technology 1971, PhD Indian Institute Science 1974, 1983-present. Honors: ACS Doherty Award 1994, UTA Academy of Distinguished Scholars and Researchers 2004, ACS Energy Technology Division Research Award 2009, UTA Distinguished University Professor

1984, Polymer Chemistry

John R. Reynolds, Asst Prof, Assoc Prof 1991, BS San Jose State 1979, MS Massachusetts 1982, PhD 1984, 1984-1993

A computer literacy requirement was introduced for all degrees in the College of Science, defined as ability to operate a keyboard and run standard programs in the field.

Polymer chemistry at UTA was begun by Margaret Willoughby, a native of Kentucky who received her undergraduate schooling in that state, and then earned her PhD in Chemical Engineering at Purdue, where her research was in polymer engineering. She joined the chemistry department in 1954 and regularly taught sections of general chemistry and organic chemistry. Alumni who attended her classes praise her, saying "She really helped me understand chemistry." She was also interested in American history and folklore, a Daughter of the American Revolution, and was a member of the Arlington Historical Society. She wrote a six page history of UTA and began a history of the chemistry department for which she elicited written recollections from John Murchison to publish. These cover the period from founding to about 1975.¹²

Margaret advocated inclusion of polymer chemistry wherever appropriate to any course and designed an upper level polymer course in 1974, Chemistry 3307. Adjunct Professor O. A. Battista, with expertise in microcrystalline cellulose and collagen, established a laboratory that functioned until 1980. John R. Reynolds joined in 1984 with a fresh PhD specializing in conducting polymers. Continuing in that field, he drew collaborators throughout his tenure. This brought in Marty Pomerantz, who did synthesis, Krishnan Rajeshwar, who formulated devices and tested them, and even theoretical chemist Dennis Marynick. Although John Reynolds left for the University of Florida, Tim Shaffer, Dick Timmons, and Ron Elsenbaumer have contributed discoveries and brought in other collaborators in Physics and Material Science Engineering.¹³

1985 Chemistry Staff, the Office, and Technology

After the early 1960s, University staff members' names were not given in the catalogs. Nevertheless, some of them are remembered for the contributions that they made to the university, their department, faculty and students.

Wilson Gammon was the storeroom manager for a time after 1966. As an Air Force pilot he flew B-47 bombers and once described the Air Force Way to approach a target at low altitude and top speed, pull up at the right time to release the nuclear weapon into an arc over the target while the aircraft completed an Immelman turn to flee at top speed in the direction from which it came. Will was an organized, courteous and careful man and could be trusted for any mission. Lyndal E. 'Lynn' Wilkerson was the assistant storeroom manager at the time and a retired Colonel.

Ed Lord was an undergraduate at Wharton College and Temple University before working at Rohm and Haas, then Thiokol, both of them chemical manufacturing firms. These jobs gave him training in glassblowing and experience in storeroom administration. He came first to Texas Woman's University for a job using both those skills and then came to UTA to take on the same responsibilities. While many chemistry students at some point in their training learn to bend glass tubing, join tubes end to end, or make a T-joint, real glassblowing is a creative art, at which Ed was fully capable. In the fall semester of 1981, he taught a one semester hour graduate course, The Science of Glassblowing, to teach the concepts, if not the expectation of professional skills, to class members.

Jean Marie Bryant was the storeroom manager for several years in the 1990s. Several graduate students, whose English language skills upon arrival didn't qualify them to teach laboratory sections, were delegated to prepare the many solutions required for undergraduate laboratory experiments. There were also undergraduate students whose jobs under her supervision were to man the stockroom windows to issue and accept equipment. Jean Marie ran an organization of all these contributors. During this time Rusty Fanning was employed to process purchase orders for fine chemicals and other needs for research groups. With many grants funding research by this time, prompt orders, receiving and record keeping were essential.

Gloria Madden was the Departmental Secretary for many years, getting well deserved promotions to levels of Administrative Assistant (meaning to the Chairman). That title aptly describes what she accomplished with grace, efficiency and authority. A series of Chairmen relied on her to keep records, know fiscal and travel regulations, assist the faculty to do things correctly, and organize special events. When the ACS section met at UTA, Gloria planned the meeting, reserved space, found a host for the social hour, chose the menu for the dinner and collected funds to pay for the dining service. The annual December holiday luncheon, a potluck event, brought together retirees, faculty, staff, and students in the largest gathering of the year. There were also frequent gatherings at the office for afternoon coffee and red velvet cake (and occasionally sherbet-7Up punch) to mark arrivals, departures, awards, special seminars and other events.

For several years Gloria was assisted by Barbara Douglas as receptionist to answer inquiries at the entry door to the office and by Rita Anderson, who had a quieter station back in the office, where she could concentrate on typing papers, quizzes, letters, etc. for the faculty.

The office in these years was located in a second floor suite in the central corridor of Science Hall. The Chairman had a small office in the back of the suite where he might confer with faculty members or visitors privately. However, our Chairmen spent more of their time in an office near their laboratories and their research students. A small room for supplies, mail boxes, a coffeepot and an ever-changing succession of copiers was adjacent to the central office room. The copier was used hard and regularly needed visits by a specialist from whatever company had the service contract for it.

Office technology changed. IBM Selectric typewriters arrived in the 1960s and were updated in a timely fashion. Duplication of materials for class work went from 'ditto' alcohol spirit machines, for handouts, to mimeograph reproduction in ink from a master cut by a typewriter, more appropriate for test copies. Later the office copier might be used or the reproduction of large runs might be done by one of several copy centers on campus. It was common to have tests prepared for classes of 200 students in two versions, original and scrambled versions.

Personal computers came on campus gradually, starting about 1984 with availability of the Apple Macintosh, favored by scientists, engineers, architects and liberal arts types. Most faculty and staff learned word processing applications first and then graphic methods like MacDraw and MacPaint were useful. A complex structural formula, once drawn, could be replicated forever after with ease. Some faculty set about learning to use these programs as soon as they were available. Others lagged behind, relying on the secretaries. This writer did not get an office computer until he moved into the Chemistry Research Building, where, because of the foresight of Professors Pomerantz and Schelly, all faculty offices were equipped with a Macintosh computer and wired to the campus network and the internet.

1986

Reed Blau, Asst Prof, BS Utah State 1979, MS 1980, PhD Iowa State 1985, 1986-1991
Timothy D. Shaffer, Asst Prof, BS Geneva College 1982, MS Stevens Inst Technology 1983, PhD Case Western Reserve 1986, 1986-1991
James B. White, Asst Prof, Assoc Prof 1993, BS California Los Angeles 1978, PhD Texas 1983, 1986-1995

1987

Thomas C. Wright, Asst Prof, BS Texas 1981, PhD 1984, 1987-1993

1990

David C. Dearden, Asst Prof, BS Brigham Young 1983, PhD Cal Tech 1989, 1990-1995
Russell L. Smith, Asst Prof, BS Clemson 1980, MA Texas 1984, PhD 1986, 1990-1997

1991

Ronald L. Elsenbaumer, Prof, BS Purdue 1973, PhD Stanford 1978, 1991-present
H. Keith McDowell, Prof and Chairman, BS Wake Forest 1966, PhD Harvard 1972, 1991-2005
Ron Elsenbaumer was also Director of Materials Science in the College of Engineering from the beginning of his service. He began serving as Vice President for Research in 2004 and since 2008 that position has been styled Vice President for Research and Federal Relations. He became Provost in 2011.

Keith McDowell was Vice President for Research 2001-2003.

1992

Rasika Dias, Asst Prof, Assoc Prof 1997, Prof 2005, BS U Perediniya (Sri Lanka) 1983, PhD California Davis 1988, 1992-present. Honors: UTA College of Science Outstanding Teacher 2000, Outstanding Academic Advisor 2003, Robert A. Welch Foundation Lectureship 2004, UTA College of Science Outstanding Research 2005 and 2007, ACS Doherty Award 2009, ACS Southwestern Regional Award 2009

The name changed to the Department of Chemistry and Biochemistry. The chemistry collection in the library was moved to the Science and Engineering Library in Nedderman Hall.

1994

Gary R. Kinsel, Asst Prof, Assoc Prof 2001, BS Western Illinois 1983, PhD Colorado 1989, 1994-2005
Frederick M. MacDonnell, Asst Prof, Assoc Prof 2001, Prof 2006, BS Vermont 1986, MS Northwestern, PhD 1993, 1994-present.

1995

The Chemistry Research Building was completed and occupied. It provided four fully equipped laboratories for research in organic chemistry and an equal number for inorganic. There was also a well designed lecture room with tables for writing rather than armrests, capacity 99

students (CRB 114), rooms for departmental instruments, faculty offices, and a conference room. Professors Pomerantz and Schelly had worked with the architects on the design of the building, which at the time of its opening had the highest cost per square foot of space of any building in the University of Texas System. In 2005 its name was changed to the W. A. Baker Chemistry Research Building.

1996, Students and Awards

Carl Lovely, Asst Prof, Assoc Prof 2002, Prof 2008, BSc Birmingham (England) 1987, PhD 1990, 1996-present. Honors: College of Science Outstanding Teacher 2009, UTA Academy of Distinguished Teachers 2010

Jimmy Rogers, Lecturer, Senior Lecturer 2003, BS Oklahoma Christian 1979, DSc UTA 1992, 1996-present. Honors: UTA Outstanding Academic Advisor 1997, Provost's Award for Excellence in Teaching 1998, Regent's Outstanding Teaching Award 2009

Missing in the account presented here are the names and activities of students who have taken the lectures and laboratory instruction, committed to chemistry for their livelihood or as background for their profession, and done research adding to chemical science. The official bulletins which were the source of most of the foregoing information lack any content about students except enrollment numbers.

In its junior college days, graduates often went on to A&M (or even "Texas" in Austin) to complete baccalaureate studies. From the start of its time as a senior college, some chemistry graduates went on to graduate schools elsewhere to obtain advanced degrees and earn distinction. Jesse Rogers, with a PhD earned at TCU, joined the faculty at Midwestern State University, and is now its President. Jesse Rogers was selected as Who's Who in chemistry and elected President of the Chemistry Club. In ChemSpek II, 1, he wrote that he was a graduate of Fort Worth Polytechnic High School and was attracted to ASC by a committed, enthusiastic and highly professional faculty, whose high standards had a lasting impact on him as a graduate student and as a practicing chemist.

James Garrett, PhD Texas, became the leading professor of organic chemistry at Stephen F. Austin State University for his entire career. James Garrett was drum major of the marching band and played tuba in the concert band. They were both in the class of 1963 at ASC.

Recognitions given deserving students are summarized below in information contributed by Bob Francis and Jimmy Rogers.

Soon after the establishment of four-year undergraduate degree programs at Arlington State College in the late 1950s, the Department of Chemistry began recognizing outstanding academic achievement by some undergraduate students. One or sometimes two undergraduates were chosen Who's Who in chemistry or biochemistry. With the addition of graduate programs in the late 1960s, the recognition was expanded to include graduate students, as well as successful participation in undergraduate and graduate research.

These awards were named in various ways, some for the donor, some for a friend, and others to honor a member of the chemistry faculty. Currently the Department of Chemistry and Biochemistry annually recognizes the academic and research achievements of undergraduate and graduate students through the following awards, fellowships and endowed scholarships. The name of the student who received the award in 2011 is given.

Undergraduate

1. The CRC Handbook Award for the outstanding freshman chemistry/biochemistry major.
Robert Rayford

2. The Robert F. Francis Award for the outstanding sophomore chemistry/biochemistry major. Victor Ngo
3. The Ray L. Hoyle Award for the outstanding junior chemistry/biochemistry major. Beatriz Garcia-Barboza
4. The John T. Murchison Award for the outstanding senior chemistry/biochemistry major. Duncan Sloan
5. The American Chemical Society Award presented by the Dallas-Fort Worth ACS Section for the top chemistry/biochemistry major. Michael Wey
6. Outstanding Chemistry Clinic Tutor Award is given to a tutor who is conscientious and caring. Andy Seal
7. Chemistry and Biochemistry Society Outstanding Member Award to a member of the society, selected by the chapter faculty sponsors. Chris Parikh
8. American Chemical Society Award in Analytical Chemistry for achievement in research. Lauren Tedmon
9. Undergraduate Teaching Award. Cynthia Griffith
10. Undergraduate Research Award. Steven Poteet
11. The Sharon and Donald Jernigan Scholarship for an outstanding chemistry major. Donald Jernigan was the first person to receive a degree from the University of Texas at Arlington, which occurred in the spring semester of 1967. Jonathan Yang
12. The Dennis S. Marynick Scholarship for an outstanding junior chemistry/biochemistry major who has completed or is enrolled in the second semester of physical chemistry, endowed by Emeritus Professor Marynick. Pinaki Bose
13. The Daniel and Linda Armstrong Award for an outstanding chemistry major, sponsored by the Robert A. Welch Professor of Chemistry and Mrs. Armstrong. Nam Tran
14. The John T. Murchison Scholarship for a premedical student, funded by a gift from an ex-student of Professor Murchison in 1932-1935. Doctor Thomas Shields, who became a prominent Fort Worth physician, funded the award in appreciation to honor Professor Murchison for his teaching and personal efforts on his behalf to secure medical school admission. Catrina Campbell and Tijani Osumah
15. The Dr. Duncan and Mrs. Sylvaine Aust Award for a junior chemistry/biochemistry major who has a GPA of at least 3.5 and financial need. (Not given)

Graduate

1. Graduate Teaching Award for success and leadership as a Teaching Assistant. Charles Phillip Shelor
2. Graduate Research Award for success in research. Yongjing "Lillian" Chen
3. Charles K. Baker Character Fellowship awarded to students of exceptional character in their interactions with other students and faculty, endowed by a UTA alumnus who received help and encouragement by Dr. Baker when they were both students. Joe Aslan and Doug Carlton

Four chemistry/biochemistry majors have been chosen to receive the College of Science Distinguished Alumni Service Awards presented by the UTA Alumni Association at an annual Gala. Selections are made by a committee appointed by the Dean of Science with representatives from each science department.

Szu-Min Lin, 1995, came from Taiwan as a graduate student and earned masters degrees in chemistry and computer science and a PhD in applied chemistry in 1987. He worked in the laboratory of Richard Timmons. Since graduation he has been a research chemist and senior

research associate for Johnson and Johnson Medical, Inc., where he has twice received company honors.

R. Dean Astumian, 2000, BS UTA 1978, MA 1982, PhD 1983 did his research in the laboratory of Zoltan Schelly and further studies in Japan. He has worked at the National Institute of Standards and Technology, the University of Chicago, and the University of Maine.

Jesse Rogers, 2004, BS Arlington State College 1963, PhD Texas Christian University 1967, has been Professor and Chairman of the Department of Chemistry at Midwestern State University and its President since 2001.

Wesley Wampler, 2007. earned an MS degree in 1987 with research on trisulfides in the laboratory of Andy Ternay and a PhD under supervision of Krishnan Rajeshwar in 1995 working on conducting polymer-carbon composites. He became Vice President for Research for Sid Richardson Carbon Company in Fort Worth, where he has led the development of new useful materials.

Faculty members of the recent past and present who have directed students' research, whether an undergraduate project, a masters thesis, or a doctoral dissertation, often maintain contact and can relate where their alumni have gone and some part of what they have done in the wider world. This record is sometimes discussed but not usually written down. It might be if established faculty were asked to write a memoir periodically with this information, or as a last desperate measure, at retirement.

The sixteen years since the 1995 centennial have certainly been the best years for the Department of Chemistry and Biochemistry. The facilities, faculty and students are the best ever. The published work would overwhelm a reader. Even the art work as illustration of their concepts would be worthy of a PIXAR production. It is very much to be desired that the story of these years will be written also.

Sources

1. Gerald D. Saxon, *Transitions: A Centennial History of the University of Texas at Arlington 1895-1995*, UTA Press, Arlington, Texas, 1995. Chapters 1-4 were my sole source for the early history of the college. Later chapters supplied the dates of name changes and much about the stresses and responses that motivated these reactions.
2. *Bulletin of the Grubbs Vocational College, Arlington, Texas, Preliminary Announcements, Session 1917-1918*. Also *Catalogs, Bulletins through 1923* and the *First Biennial Report in 1919* were used. There followed numerous corresponding publications of North Texas Agricultural College, Arlington State College, and the University of Texas at Arlington. Insofar as possible, these were accessed in the Reference Section of the UTA Central Library at LD5315.A58, but some were consulted in Special Collections when the Reference section was temporarily moved to the Book Depository during renovation. Catalogs after 1999 are on line. The Registrar's Office in Davis Hall was helpful in letting their copies be used for fact checking information about faculty from 1980 to present when my original notes proved inadequate. After 2004 some valuable information was found in the Department of Chemistry and Biochemistry web pages accessed at uta.edu, especially about retirements and requirements for graduate programs.
3. Sarah Margaret Claypool Willoughby, *CHEMSPEK, The Newsletter of the Department of Chemistry, UTA, II, No. 2, Fall 1981-Winter 1982*. Three issues are known to exist, Spring 1980 to Winter 1982 and all of these had useful information.

4. Duncan Robinson, Interview of Dr. John T. Murchison for the Oral History Project, November 19, 1975, UTA Library, Special Collections, LD5315.U5, No. 26
5. Duncan Robinson, Ibid.
6. Duncan Robinson, Ibid.
7. Southwest Retort, Newsletter of the Dallas-Fort Worth Section, The American Chemical Society, Dallas, Texas, May 1951, page 16
8. Duncan Robinson, Op. Cit.
9. The Charter Members of the Sigma Xi chapter from the Chemistry Department were Andrew Thurmond Armstrong, Willie Arthur Baker, Jr., Harold Gardner Burman, Lanny Max Casey, Thomas James Cogdell, Peter Raymond Girardot, Donald Ray Martin, John Taynton Murchison, Andrew Lewis Ternay, Jr., and Sarah Margaret C. Willoughby.
10. The short courses organized at UTA by Andy Armstrong with help from others, sponsored by the Dallas-Fort Worth Section, American Chemical Society, for the benefit of chemists in the area, are listed below.
Atomic Absorption, Sept 1975; High Pressure Liquid Chromatography, Nov 1975; Gas Chromatography, April 1976 and April 1991; Infrared Spectroscopy, Oct 1976 and Oct 1978; Carbon-13 Nuclear Magnetic Resonance, Nov 1976; Digital Processing, June 1977; Advanced Gas Chromatography, Nov 1977; pH and Ion Selection Instrumentation, Oct 1980; Gas Chromatography/Mass Spectrometry, Apr 1981; Atomic Absorption, Oct 1981; Thermal Analysis, Mar 1983; and Laboratory Automation, Apr 1984
Andy Ternay organized a similar program one time on how to write a textbook, for which the editors of his Contemporary Organic Chemistry, W. B. Saunders Company, 1976 were present to discuss the process.
11. Robert F. Francis read the manuscript and made many helpful suggestions, plus writing sections about some of his duties, such as the pre-medical students' advisement. With some assistance from Jimmy Rogers, he wrote much of the section about the honors and scholarships given to students. Dick Timmons, Andy Armstrong, Ed Bellion, Chuck Savage and Marty Pomerantz made helpful suggestions in conversations.
12. History of the University of Texas at Arlington, Arlington Treasured Recipes, Lucretia Council Cochran Chapter, National Society Daughters of American Revolution, Arlington, Texas, pages 405-410, 1975
13. Martin Pomerantz, Polymer Chemistry and Polymer Science at the University of Texas at Arlington, Polymer News 19, 284-288 (1994)

Scrapbook

Lectures, Laboratories, Learners

For professorial persons of all ranks, I have selected the first good picture that I found. For those with long careers at the college, there may be a second, or more. There are few pictures of staff members in the sources that I had. Students represented here are mostly Who's Who, one of the first B. S. graduates, or mentioned in the text of the memoir for any reason.

Pictures of people in chemistry contexts were favored.

Campus

From meager beginnings an impressive university has grown. The Sanborn Fire Insurance maps reveal the military character of Carlisle Academy by its barracks of western character and spacious parade ground set on the prairie adjacent to a small town. An important military tradition remains, but involves relatively few students.

As the campus grew, streets were added to accommodate automobiles, and then closed to limit them to the edges of the campus. What had been Military Walk, where cadets walked off their demerits, became West 2nd Street. Then the street was closed and a pedestrian mall walk was landscaped from West Street to Cooper Street, later extended north and south.

There was no evidence of any design to teach and practice chemistry in the beginning, but a series of buildings built between 1929 and the present have been intended to serve the needs of an ever more sophisticated discipline.

Lectures, Laboratories, Learners

Abbreviations: P Prof S Staff PD Post Doc GS Grad Stud UG Undergrad



P H K Taylor



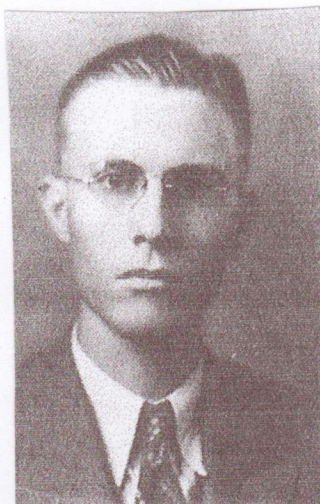
P J M Barcus 1924



P H A D Dunsworth 1929



P Martha Hughes 1927



P Charles B McDonald 1932



P John T Murchison 1938



P Leo S. Mason 1938

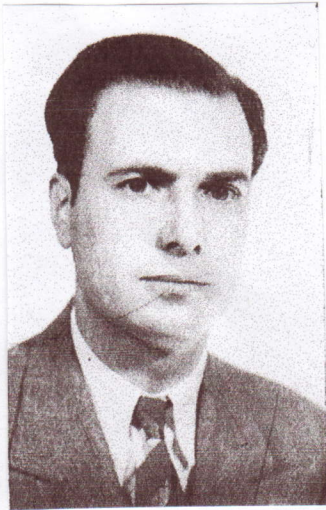


P Tobias H Dunkelberger 1937



S Gant Ragland 1937

Lectures, Laboratories, Learners



P William B Whitney 1938



UG David Lindsey 1938



P Daniel J Brawley 1940



P Andrew Patterson 1942



S L Theron Standley 1942



UG Jerome Fesperman 1942



P G J Samuelson 1943

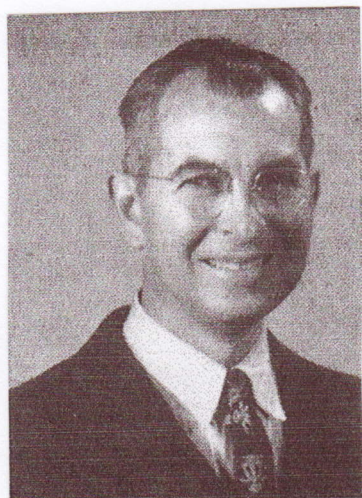


P Clyde Newton 1943



UG Rentz Gullick 1943

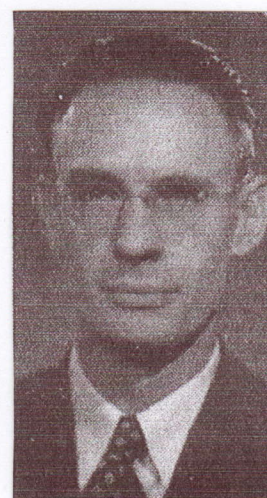
Lectures, Laboratories, Learners



P H D Pope 1945



P Annie Phillips 1945



P Harold G Burman



UG Marion Bucklin 1945



P H D McAfee 1947



P John T Murchison 1947



UG Billy F Brooks 1947



P Warren Culbertson 1949

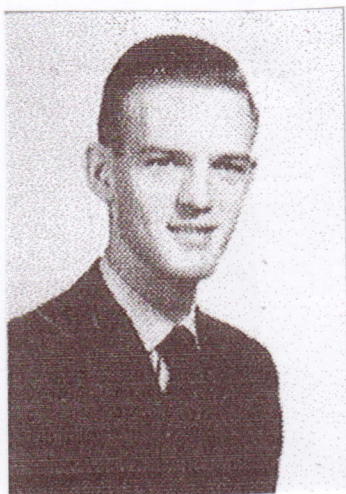


P Elizabeth Kemp Russell 1949

Lectures, Laboratories, Learners



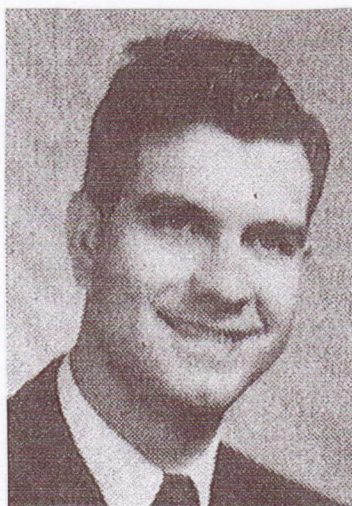
UG Galen Steeg 1949



P W D Compton 1950



UG Thomas Perkins 1950



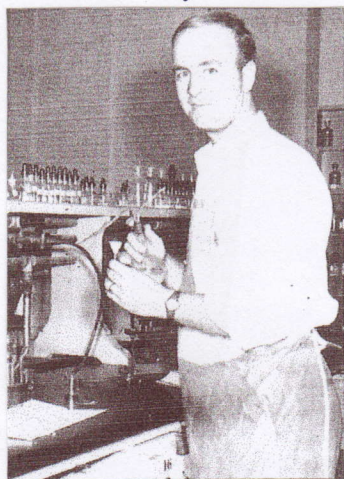
P Kenneth Layne 1951



UG John W Anthony 1951



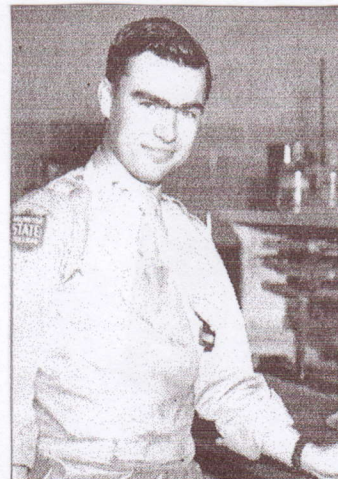
UG John H Mitchell 1952



UG Marvin Nielsen 1953



P Charles B McDonald 1954



UG Rene P Brown 1954

Lectures, Laboratories, Learners



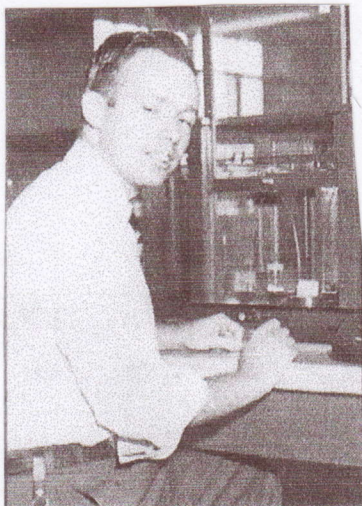
P John Anderson 1955



P Margaret Willoughby 1955



S Azalee Tatum 1955



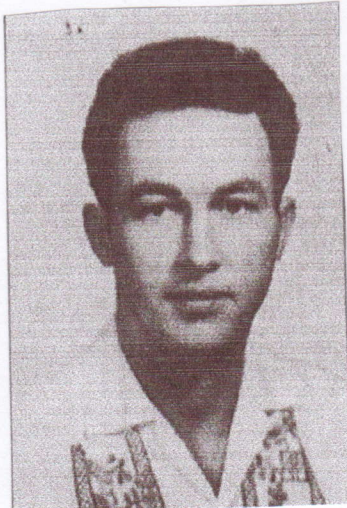
UG Donald Hobart 1955



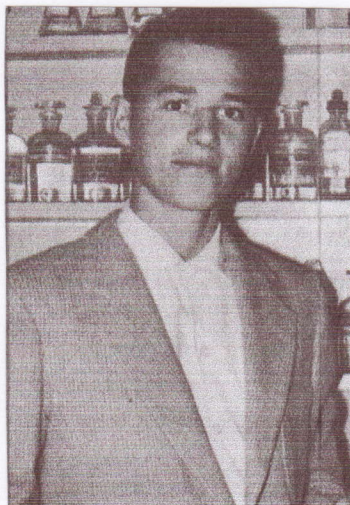
S Mary Lou Edmondson 1956



UG James Dale 1956



P Donald Lancaster 1957



UG John R Gentry 1957

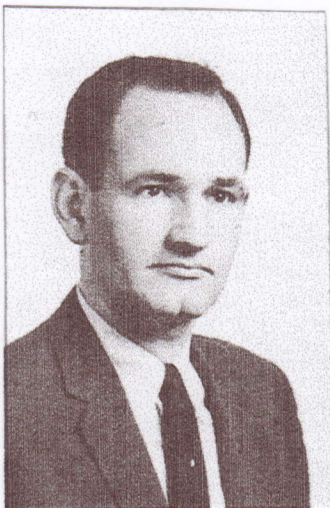


P R J Hach 1958

Lectures, Laboratories, Learners



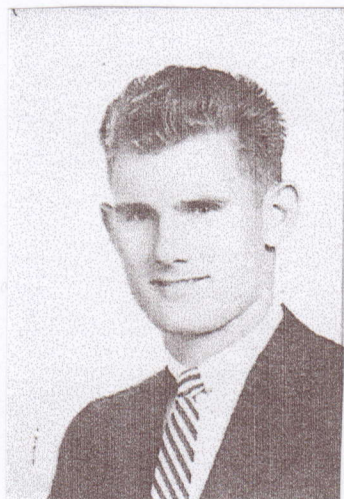
S Thomas G Hanning 1958



P Robert F Francis 1959



P Beverly Lamp Gish 1959



P Emory C Hancock 1959



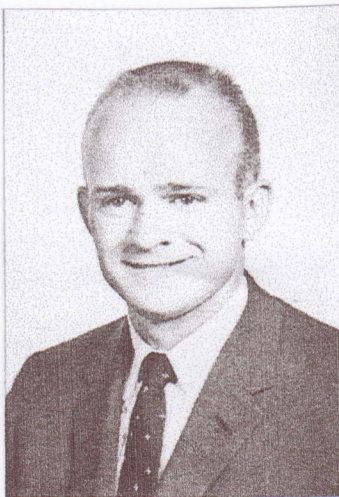
P Barbara F Howell 1959



P Miles B Lebo 1959



P Carl Scharf 1959

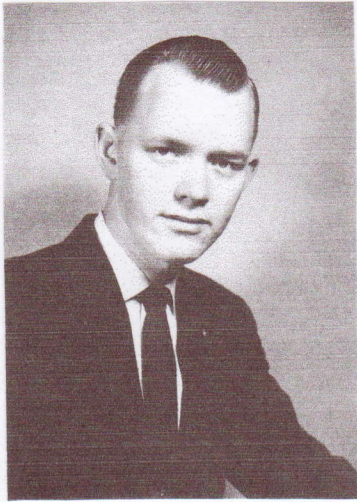


P Ralph J Thompson 1959

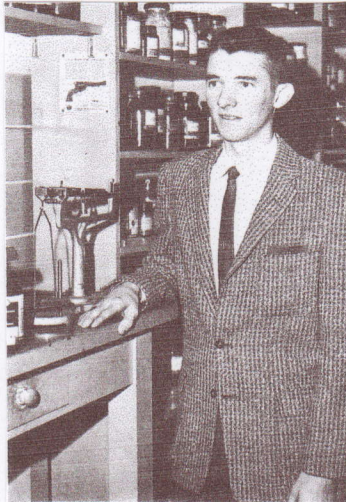


P Russell C Waters 1959

Lectures, Laboratories, Learners



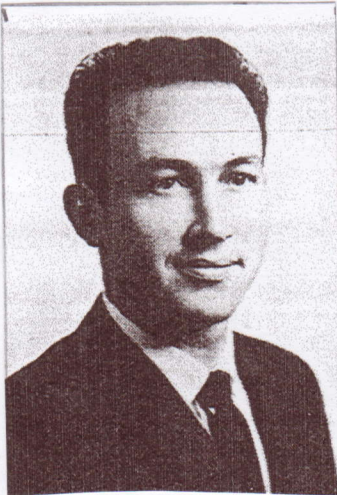
UG William R Gardner 1958



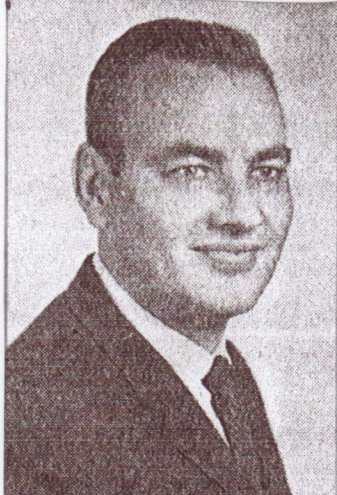
UG Charles Thaxton 1959



P George Denny 1960



P Donald Lancaster 1960



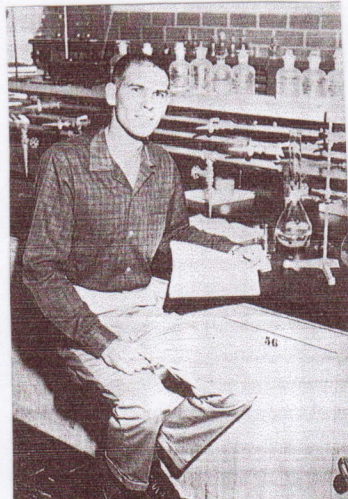
P Rayford L Hoyle 1961



P Gerald B Risinger 1961



S Barbara Huff 1961



UG David Coffey, Sr Class 1961

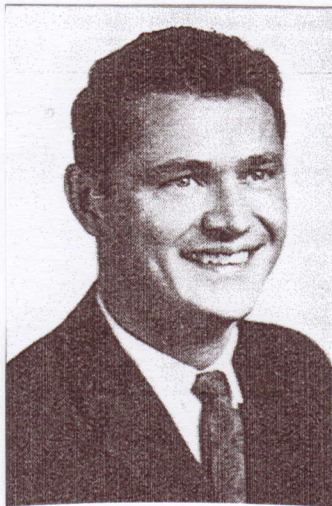


UG Billy J Bunch, Sr 1961

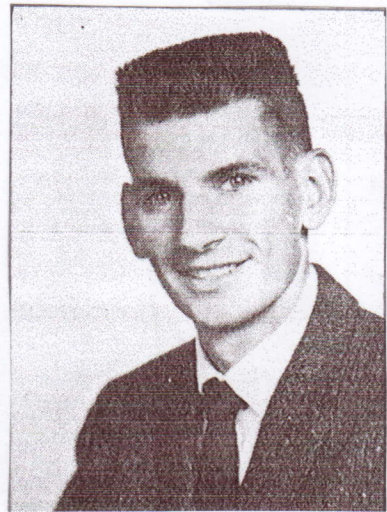
Lectures, Laboratories, Learners



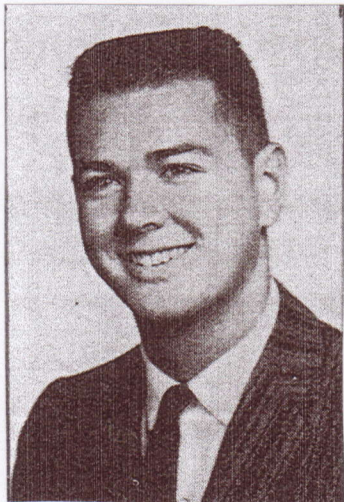
UG Sybil Chew, Sr Class 1961



UG Robert H Hill, Sr 1961



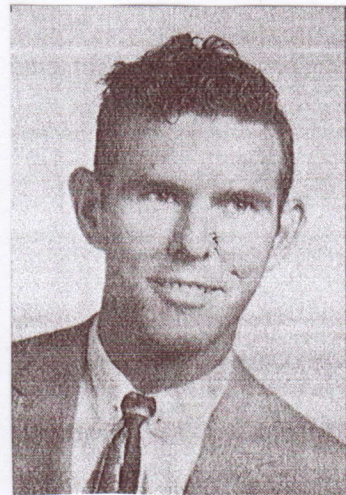
UG Meredith Jeffcoat, Sr 1961



UG Carter Knowles, Sr 1961



UG Leonard Leonard, Sr 1961



UG Don Pritchard, Sr 1961



UG Michael Wadlington, Sr 1961



P Almon L Havenstrite 1962



P Wylie Preston Reeves 1962

Lectures, Laboratories, Learners



UG Edward Eugene Mach 1962



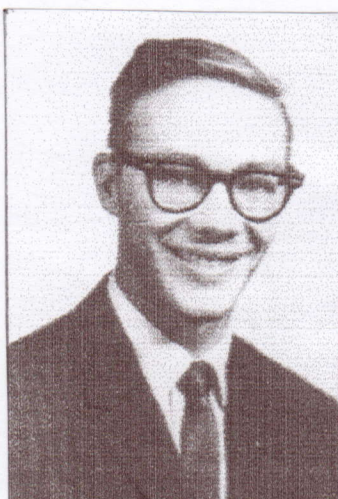
P Harold Burman 1963



P Alva Earl Garrett 1963



P Harold Wayne Temple 1963



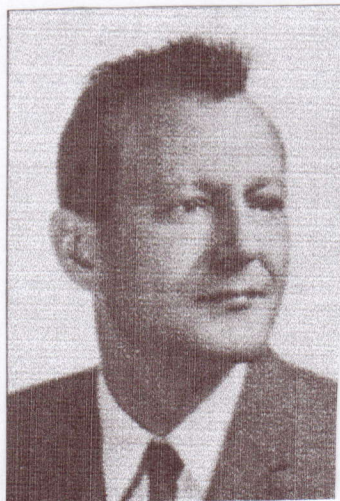
UG James Garrett 1963



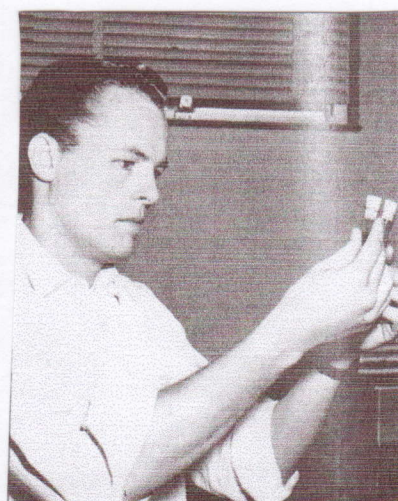
UG Jesse Wallace Rogers 1963



P Wayne Adickes 1964



P George Greenfield 1964



UG Nolan Mac Brockway 1964

Lectures, Laboratories, Learners

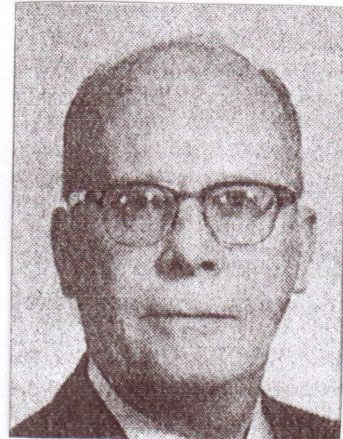
Department of Chemistry



P Ann Benham 1965



P Fred R Boshers 1965



P Clovis Huddleston 1965



P Grover Lee Johnson 1965



P Jack Matthews 1965



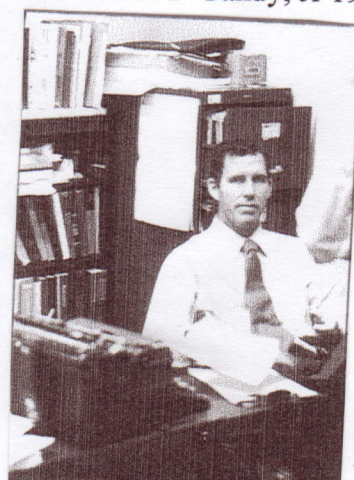
S Thomas D Gandy, Jr 1965



UG Robert Daubert 1966



P Peter R Girardot 1967



P Thomas J Cogdell 1967



Department of Chemistry

Lectures, Laboratories, Learners



P Ray Hoyle, SH100 1967



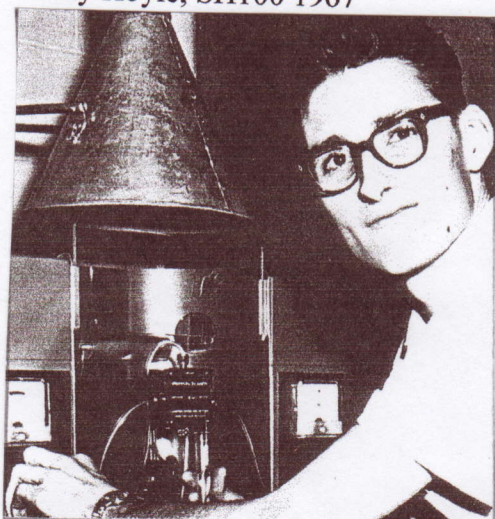
P Ruth Ann Haggard 1967



P M Lynne Hardin 1967



S Lyndal 'Lynn' Wilkerson Storekeeper 1967



UG Donald Lynn Jernigan 1967

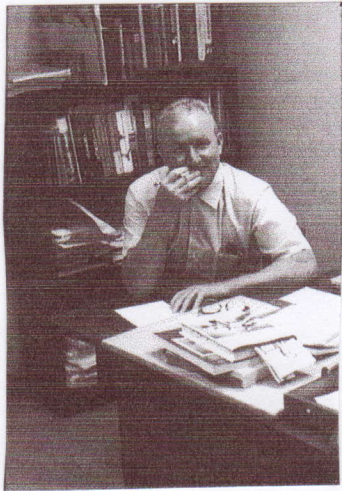


P Eunice Bonar 1968



P Rosemary Fowler 1968

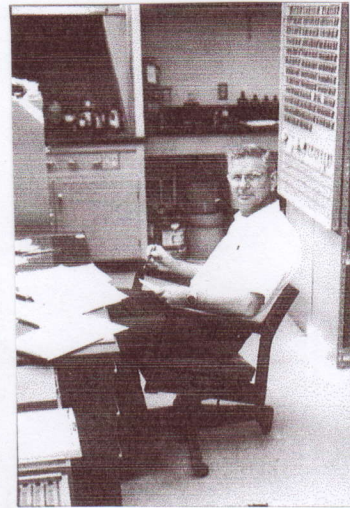
Lectures, Laboratories, Learners



P Carl Scharf 1968



P Robert N Williams 1968



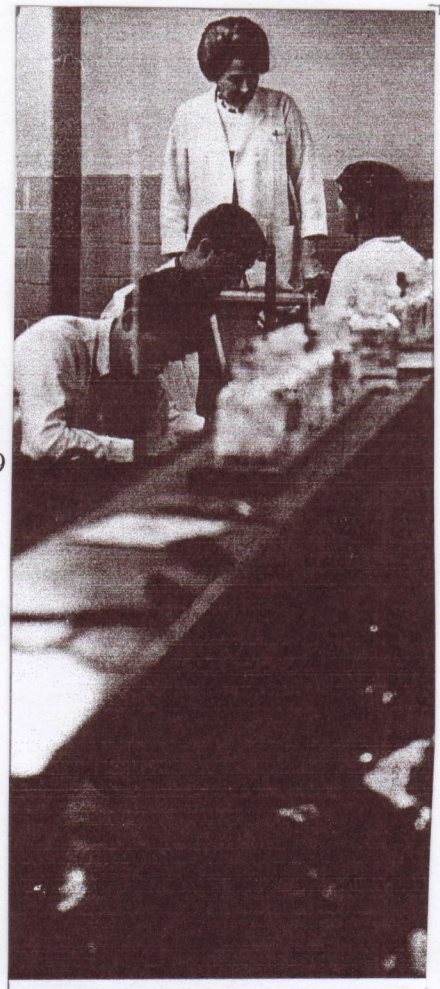
S Wilson 'Will' Gammon 1968



UG Gregory Smith 1968



P Andrew Armstrong 1969



P Ann Benham, quant 1969



P Shirley Chu 1969



P Robert Coombes 1969

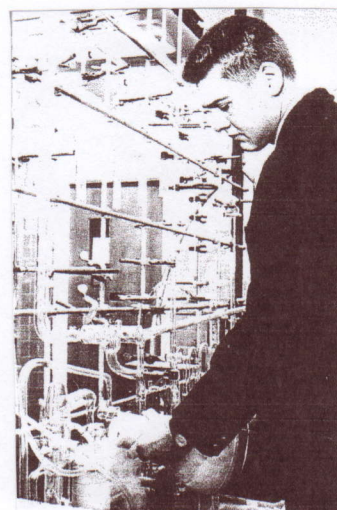
Lectures, Laboratories, Learners



P Hugh D McAfee 1969



P John T Murchison 1969



UG Ronald Pyle 1969



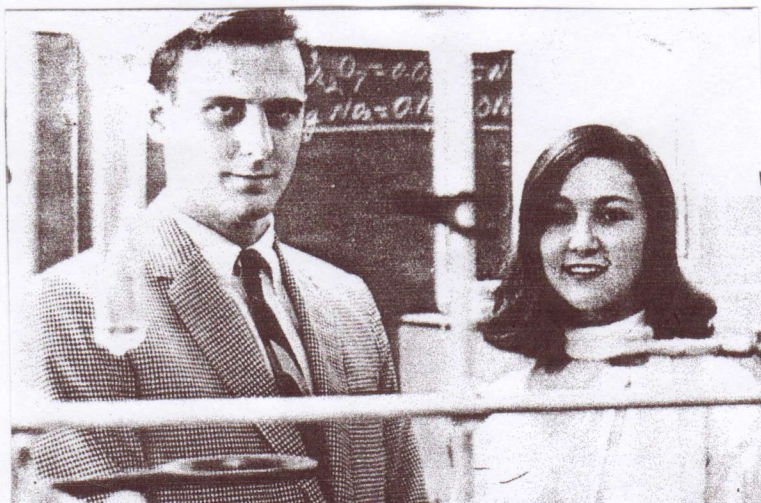
P Donald R Martin 1970



PD Edwin Louis and PD R V Tsina 1970



GS Van Wallace and
GS Grace Leong 1970



UG Roger Cadenhead and UG Beth Schmidt 1970

Lectures, Laboratories, Learners



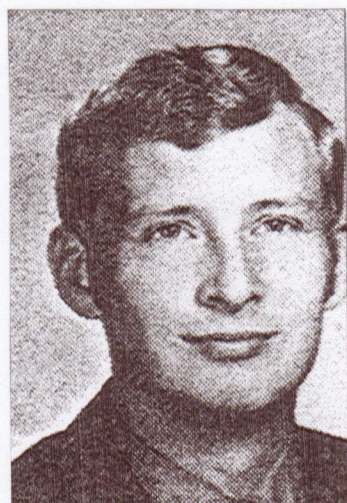
S Paula Richards Howe 1967



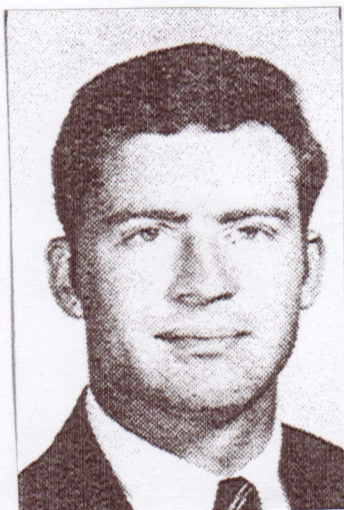
P Peter R Girardot
PD Milan Schara 1968



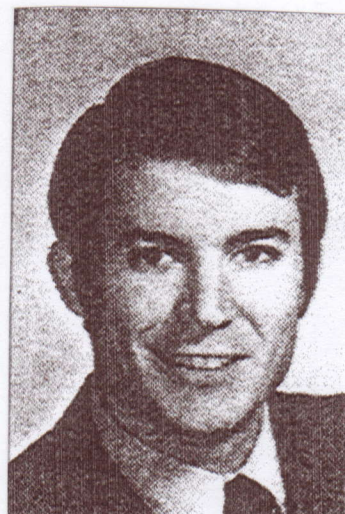
P Thomas J Cogdell
GS Roger Case 1970



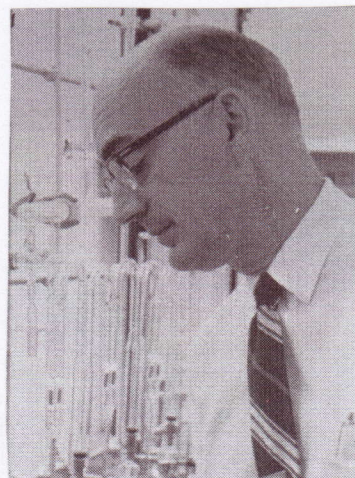
GS William Davis 1971



GS David Kretzschmar 1971



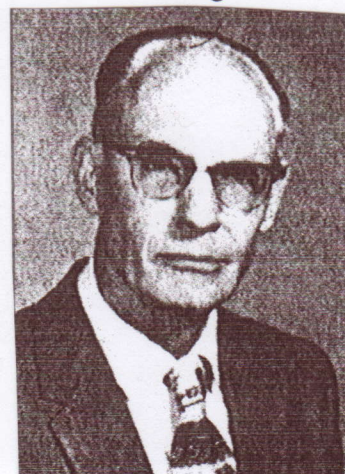
GS Robert Wingfield 1971



P Donald R Martin 1972

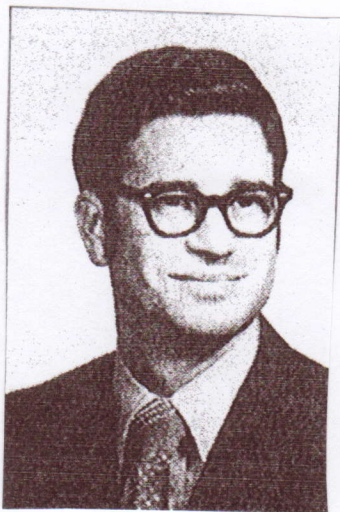


P Daniel M Blake 1974

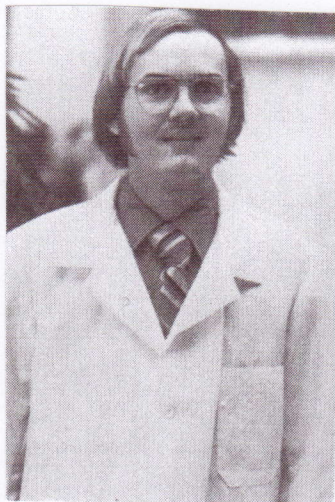


P Harold G Burman 1974

Lectures, Laboratories, Learners



P Lanny M Casey 1974



UG Rick Sheppard 1972



P Peter R Girardot 1974



P Andrew L Ternay 1974



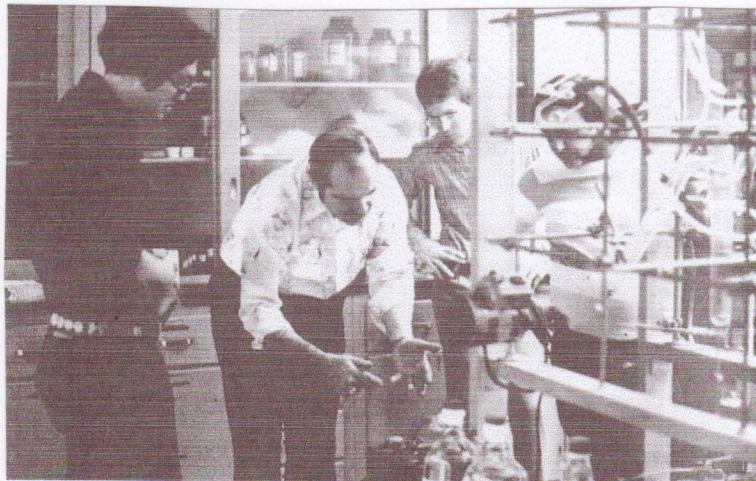
P W A Baker 1975



P Edward Bellion 1975



P William N White 1977



P Andrew L Ternay, SH penthouse laboratory 1977

Lectures, Laboratories, Learners



UG Lee Ann Gorthey 1979



UG Gay Lynn Gray 1980



UG Kerry Kathleen McGee 1980



P Richard B Timmons 1981



P Andrew T Armstrong 1981



S Ed Lord 1981

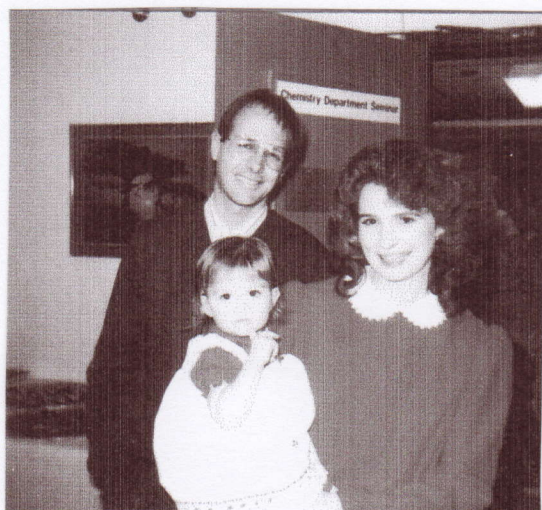


UG Paul Andrew Schkade 1981



P Kenneth L Brown, Chem Club James Szamozsi,
Michael Morgan, Sasan Askari, Donivan Porterfield 1982

Lectures, Laboratories, Learners



P John R Reynolds family 1984



P Reed Blau family, Philomena Timmons center 1986



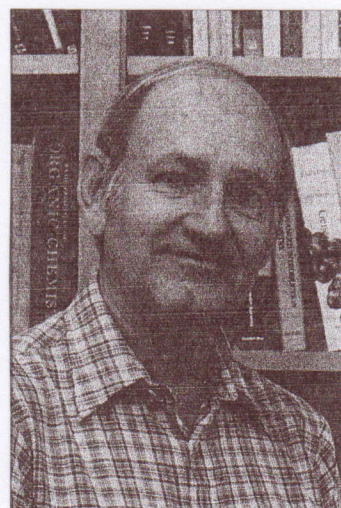
P Willie A Baker 1986



P Edward Bellion 1986



P Ann Benham 1986



P Robert F Francis 1986



P Dennis Marynick 1986



P Martin Pomerantz 1986

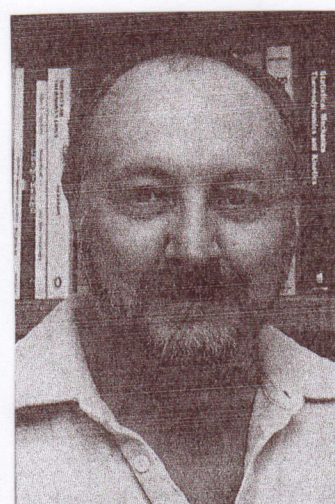
Lectures, Laboratories, Learners



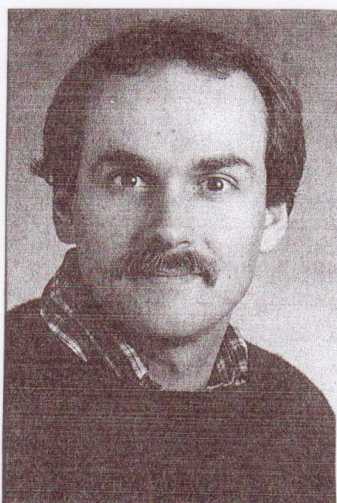
P Krishnan Rajeshwar 1986



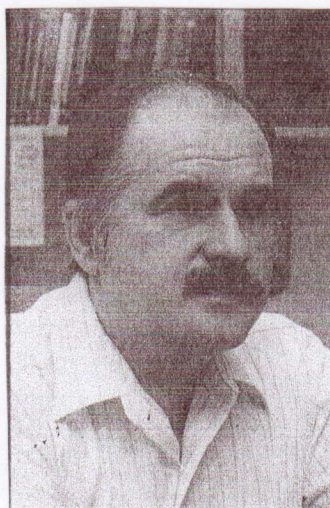
P John R Reynolds 1986



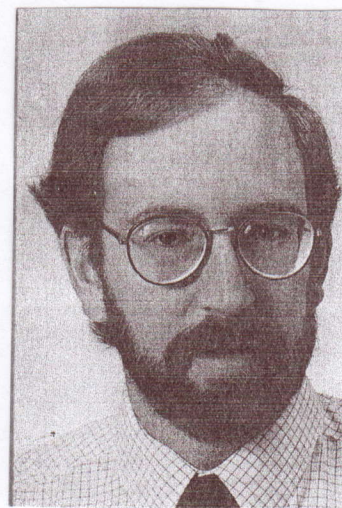
P Zoltan Schelly 1986



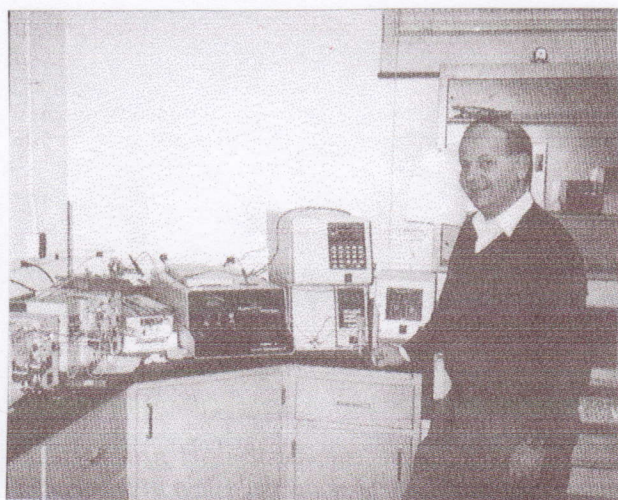
P Timothy D Shaffer 1986



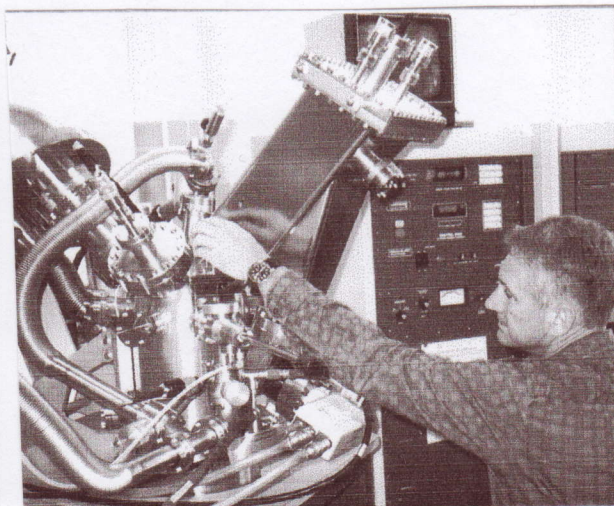
P Andrew L Ternay 1986



P James B White 1986



P Martin Pomerantz, gpc 1994



P Chuck Savage, esca 1994



Lectures, Laboratories, Learners

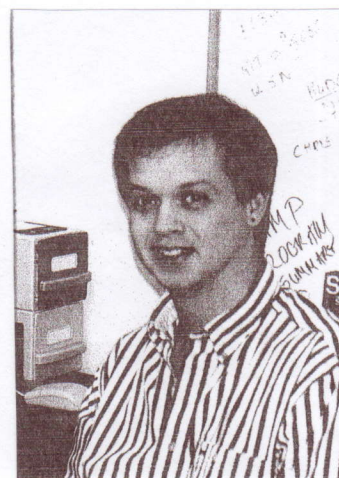
DEPARTMENT
OF CHEMISTRY



P Thomas J Cogdell 1996



P Ronald L Elsenbaumer 1996



P Gary R Kinsel 1996



P Carl Lovely 1996



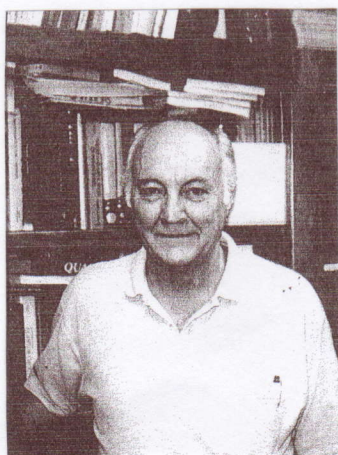
P Fred M MacDonnell 1996



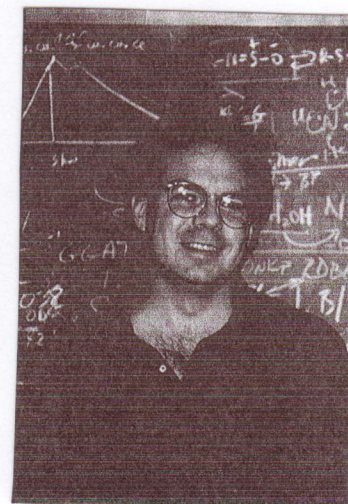
P Martin Pomerantz 1996



P Krishnan Rajeshwar 1996



P Zoltan Schelly 1996



P Russell L Smith 1996



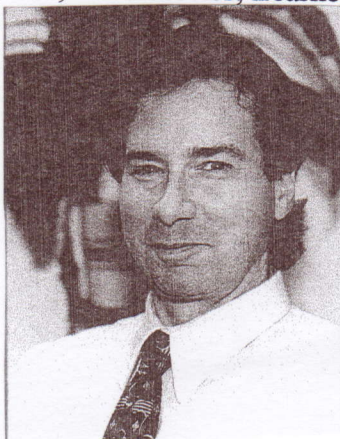
Department of Chemistry

Lectures, Laboratories, Learners

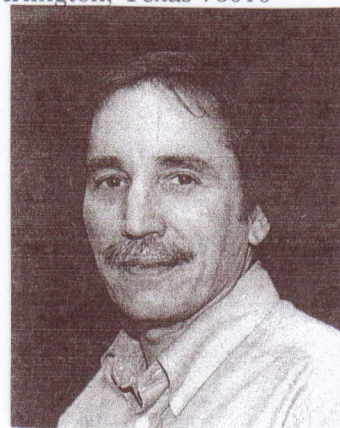
The University of Texas at Arlington
Arlington, Texas 76010



P Rasika Dias 1996



P Ronald L Elsenbaumer 1996



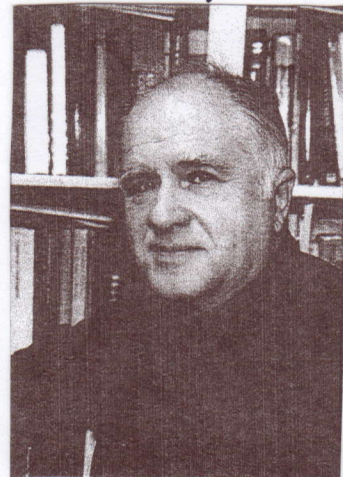
P Dennis S Marynick 1996



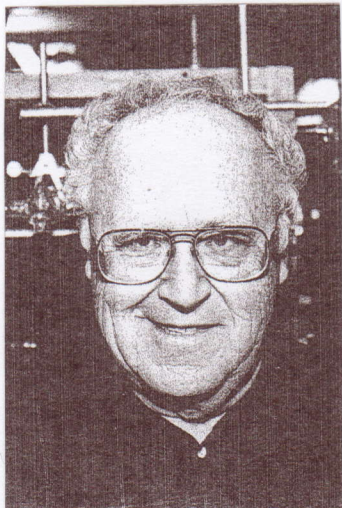
P H Keith McDowell 1996



P Jimmy Rogers 1996



P Andrew L Ternay 1996



P Richard Timmons 1996



P Keith McDowell, Neal Smatresk (Biology),
Richard Timmons, Zoltan Schelly 1996

Lectures, Laboratories, Learners



S Barbara Douglas, Russ Emerick, Rita Anderson,
Gloria Madden, Jeanne Marie Bryant, 2000+



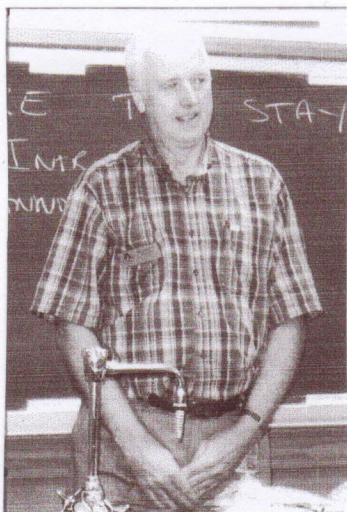
S Rusty Fanning 2000+



P Tom Strom



P Flo Francis and Robert F Francis



P Edward Bellion

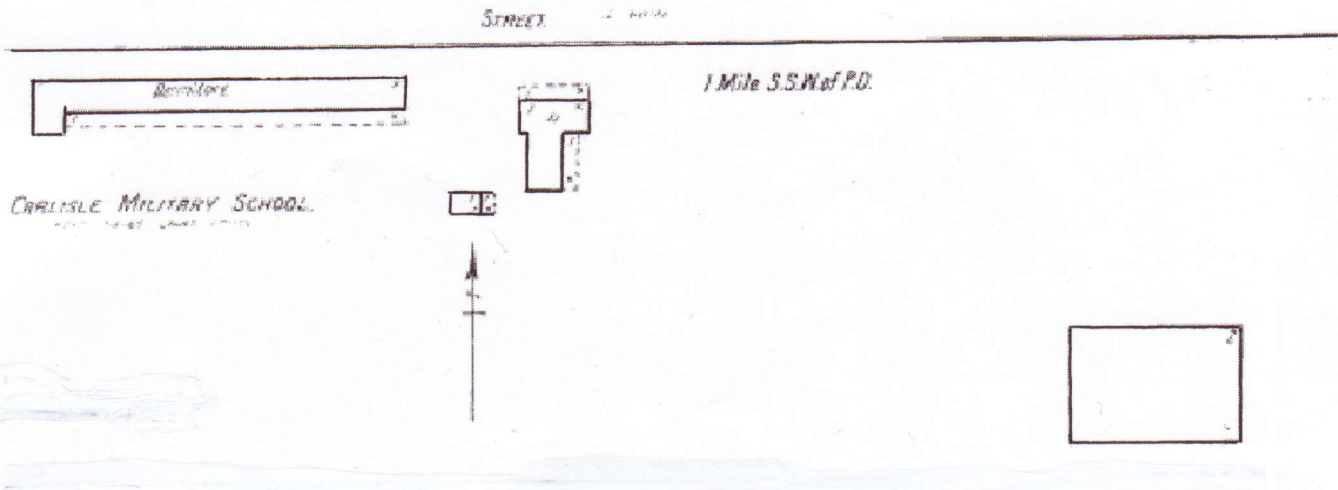


P Fred MacDonnell 2011

Lectures, Laboratories, Learners

- L1. H. K. Taylor, Courtesy University of Texas at Arlington Library, Special Collections, H. K. Taylor Vertical File, the University of Texas at Arlington Library, Arlington, Texas.
- L1-L4. Yearbook Photographs, Junior Aggie, North Texas Agricultural College, 1923-1949, from J. M. Barcus to Galen Steep. All Junior Aggie yearbooks are available in the UTA Library, Special Collections, but some were accessed in the partial holdings of the George W. Hawkes Arlington Public Library and the Fielder House Museum, Arlington Historical Society.
- L4-L16. Yearbook Photographs, Reveille, Arlington State College and the University of Texas at Arlington 1950-1982, from W. D. Compton to Ken Brown and the Chem Club. Access is the same as for the Junior Aggie.
- L12-L14, L21. Thomas J. Cogdell, personal photographs of Carl Scharf, Will Gammon, Van Wallace, Grace Leong, Paula Howe, Peter Girardot, Milan Schara, Roger Case, and Fred MacDonnell.
- L16. Margaret Willoughby, ChemSpek, the UTA Chemistry Department Newsletter. Three issues are extant, 1980-1981, including the photos of Richard B. Timmons 1981, Andrew T. Armstrong 1981, and Ed Lord 1981.
- L18. Martin Pomerantz, Polymer Chemistry and Polymer Science at the University of Texas at Arlington, from Polymer News, Gordon and Breach Science Publishers, **19**, 284-288, 1994 was the source of the photo of Marty Pomerantz.
- L17-L21. UTA Department of Chemistry, photographs file, faculty and staff members 1984-present.

Campus



Carlisle Military School 1905

The location of the school was outside the town limits, about one mile SSW of the post office, which was in the 100 block of East Main Street.

The street on the north side of campus has 'no name.'

Buildings:

One dormitory east-west

Second dormitory, T-shaped.

Large rectangular original classroom building of Arlington College built in 1895 and located on the west side of South West Street

The map was produced by the Sanborn Map Company for the purpose of rating buildings for fire risk and gives the following information about the town as a whole.

Arlington, Tarrant County, Texas, population 1500

Prevailing winds S and NW

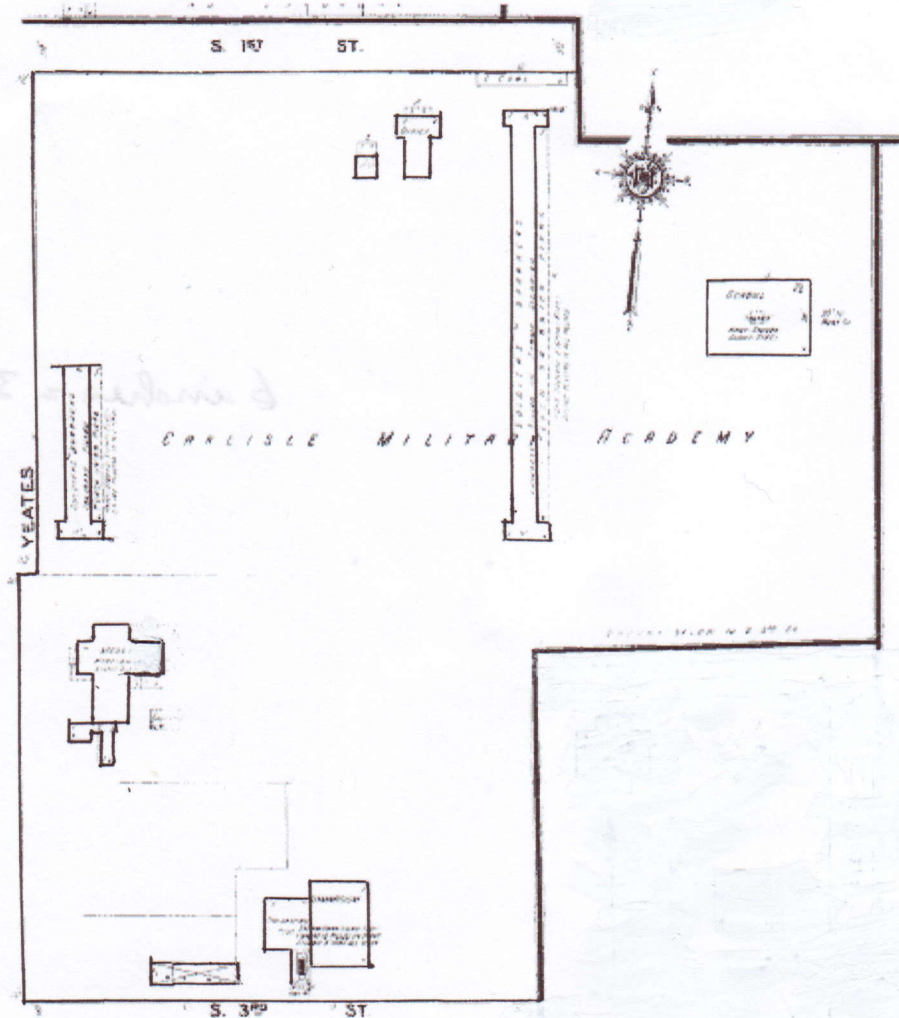
Water facilities none

No steam and no hand engine

No independent hose cart

No hook and ladder truck

Carlisle Military Academy 1911



The school property is outside the town boundary and is shown as an inset on the Sanborn map.

Buildings, clockwise from top

T-shaped Office; 'Long Barracks' dormitory, concrete filled on frame studding, porch on brick piles, heat-stoves, lights-electric, stone floors on all rooms; School, with a tower added, 30 feet from West Street; Gymnasium, swimming pool on the west, steam heat, concrete filled on wood studs; Mess Hall, cross shaped; Soldiers Barracks, with construction like the long barracks

Town facilities

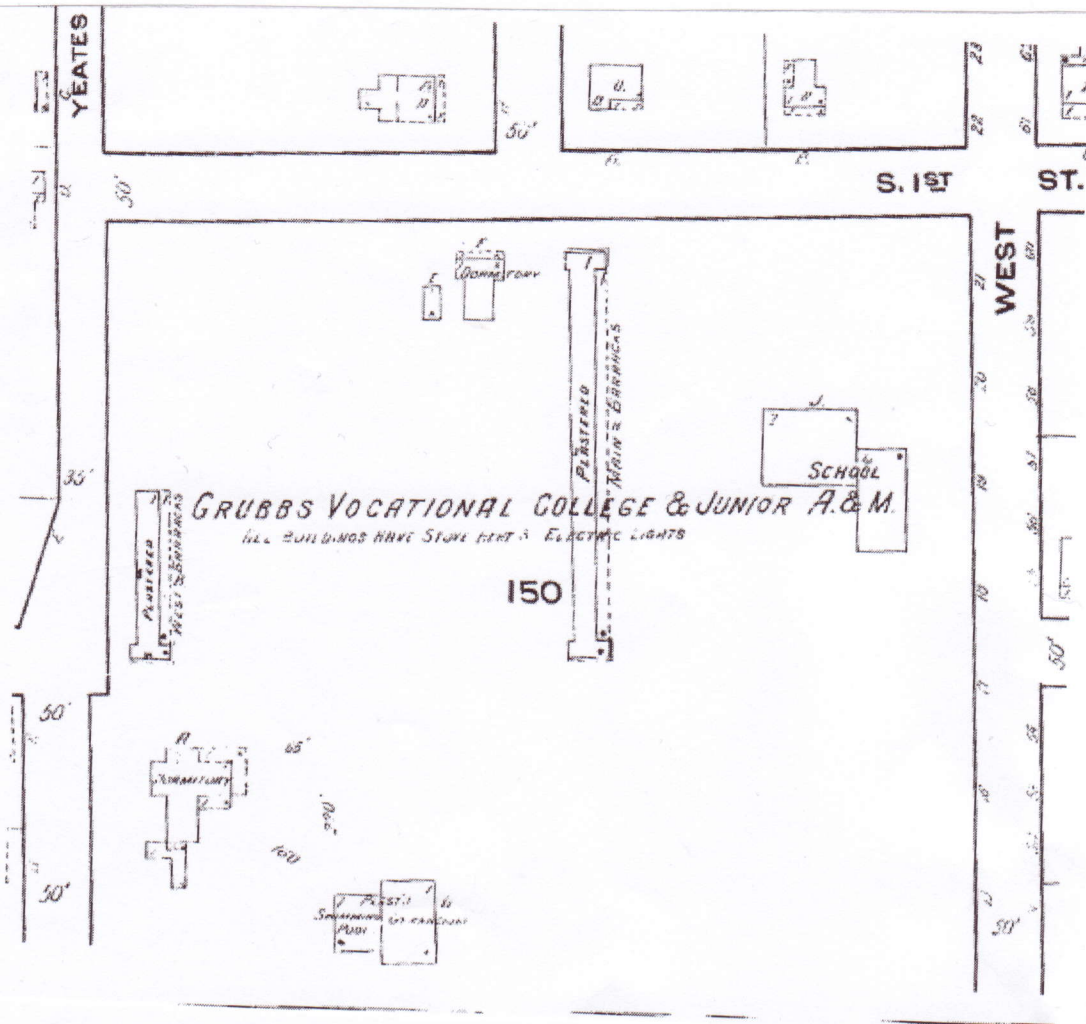
Arlington, Tarrant County, April 1911, population 3500

Water-Private ownership, from artesian wells 820 and 685 feet deep, gravity flow from steel tank elevated 75 feet

Fire Department-Volunteers, 35, night watchman, telephones and steam calliope whistle alarm, one hook and ladder truck, two hose carts

Streets-improved; Public Lights-incandescent

Grubbs Vocational College & Junior A&M 1917



Campus-now encompassed in the town map

Buildings

The changes since 1911 are few in this, the first year of A&M administration.

T-shaped building and former Mess Hall are both dormitories.

School building has an addition on its east side.

Town

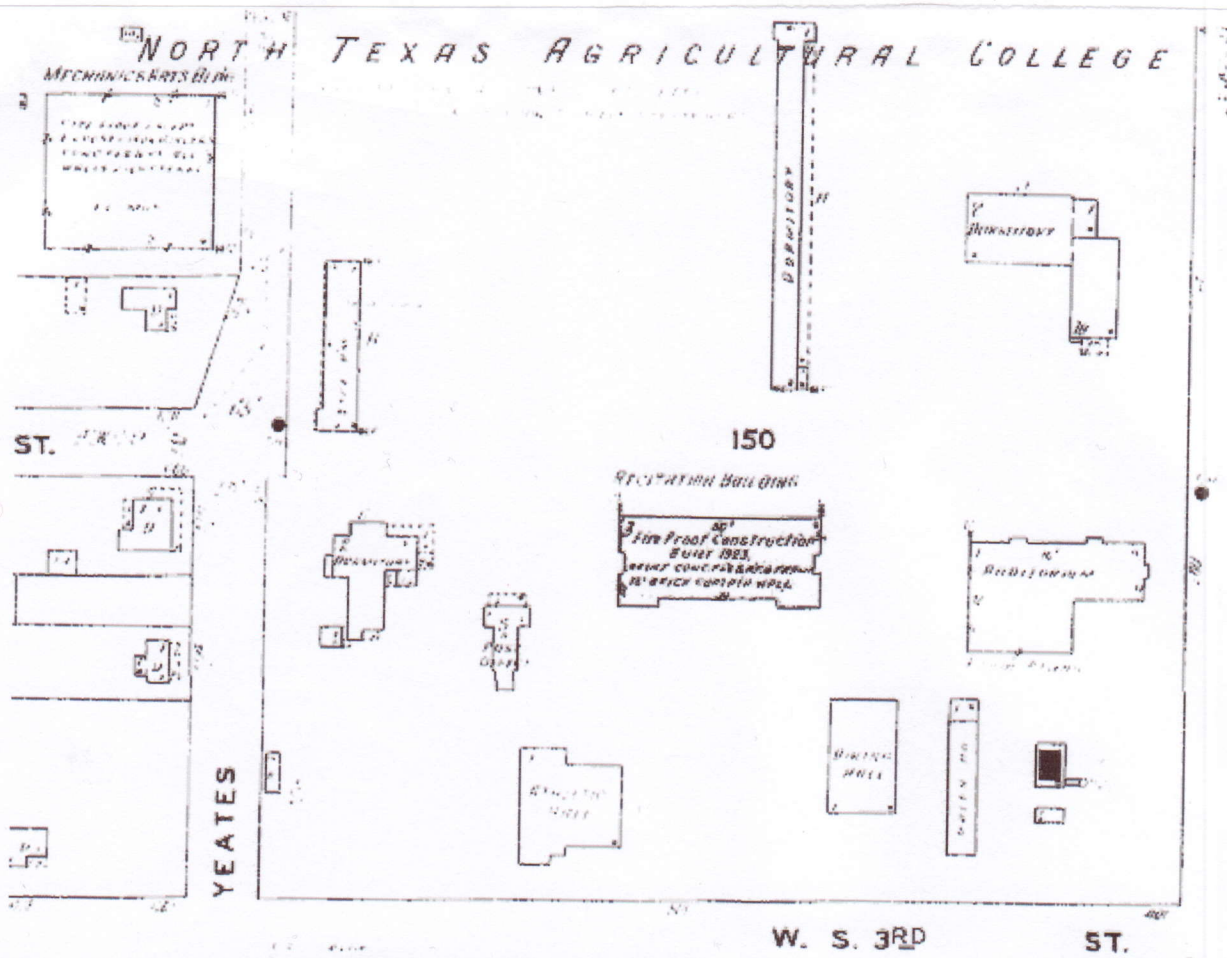
Arlington, Tarrant County, Texas, August 1917, population 3000

Water-from two wells, 850 and 1650 feet deep, with the deep well alone sufficient for demand

Fire Department-20 volunteers, alarm by telephone and siren

Streets-'Abrahms' Street paved for two miles

North Texas Agricultural College 1927



Ten years after taking over the college A&M was still making do with many of the same structures. Using NTAC as a junior college prep school for Aggies, they may have liked the western appearance of the men's barracks, their suitability for instilling military discipline, and being so convenient to the parade ground.

Campus- Taken clockwise from top. New buildings have their date of completion, if known. Long barracks, 1895 building, Auditorium (1926, a library and student lounge originally, now College Hall), Greenhouse (new), Dining hall (1918), Recitation building (1919, for administration, classrooms, and auditorium, now Ransom Hall), ___ Hall (new), Post Office (new), Dormitory, West barracks, Mechanic Arts building (1919, and an auto repair shop to its west).

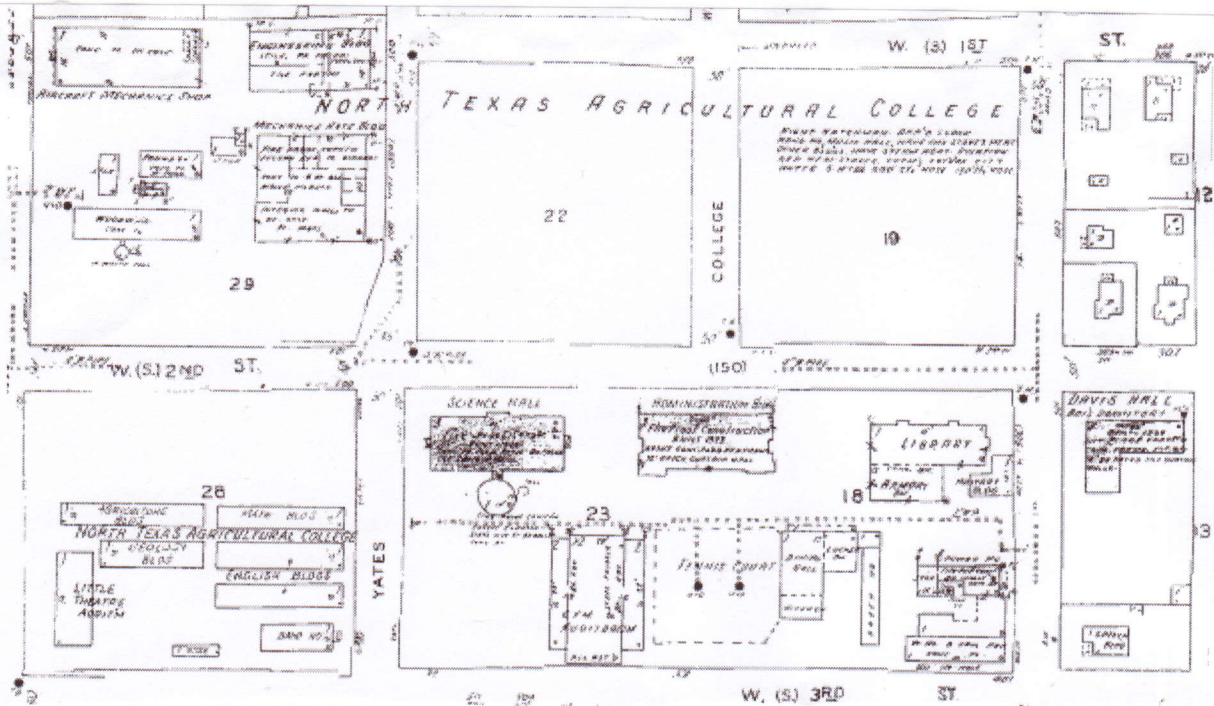
Town-

Water from three deep wells, ninety foot elevated water tank, and water pressure 65 pounds at Main and Center streets.

Fire Department- Fully motorized. Chief, Assistant Chief and Fire Marshal paid, with 22 volunteers. Central station, Reo pumper, Reo hose/equipment truck, alarm by phone to phone office and fire station, and by siren on top of fire station.

There was electric public lighting and 4½ miles of paved streets. Population was 6000.

North Texas Agricultural College 1932-1944



This Sanborn Map has a 1932 index. Some later changes are shown.

Campus-West 2nd St. and College St. from the interurban stop at Abram St. to the front of the Administration Building were built through the campus. The campus extended from Cooper Street on the west beyond West Street on the east. The 1895 Building, the western style barracks, the old gymnasium/swimming pool, and two dormitories in the southwest were gone.

Buildings-listed clockwise in each numbered block. Many were new, but not all remain.

29 Aircraft Mechanics Shop, Engineering Building, Mechanic Arts Building, Woodwork

22 and 19 Open

28 Agriculture, Math, English, Band Hall, Little Theater, Geology

23/18 Science Hall (new, now Preston Hall), with its distinctive Roundhouse, Administration Building (Ransom Hall), Library/Armory (College Hall), Military Building, Power House, W. House & Gen Rep, Greenhouse, Dining Hall/Kitchen/Locker Room, Tennis Courts, Gym/Auditorium (This lasted until demolished for the William A. Baker Chemistry Research Building site in 1994.)

13 new Davis Hall Boy's Dormitory (Brazos House), Speech

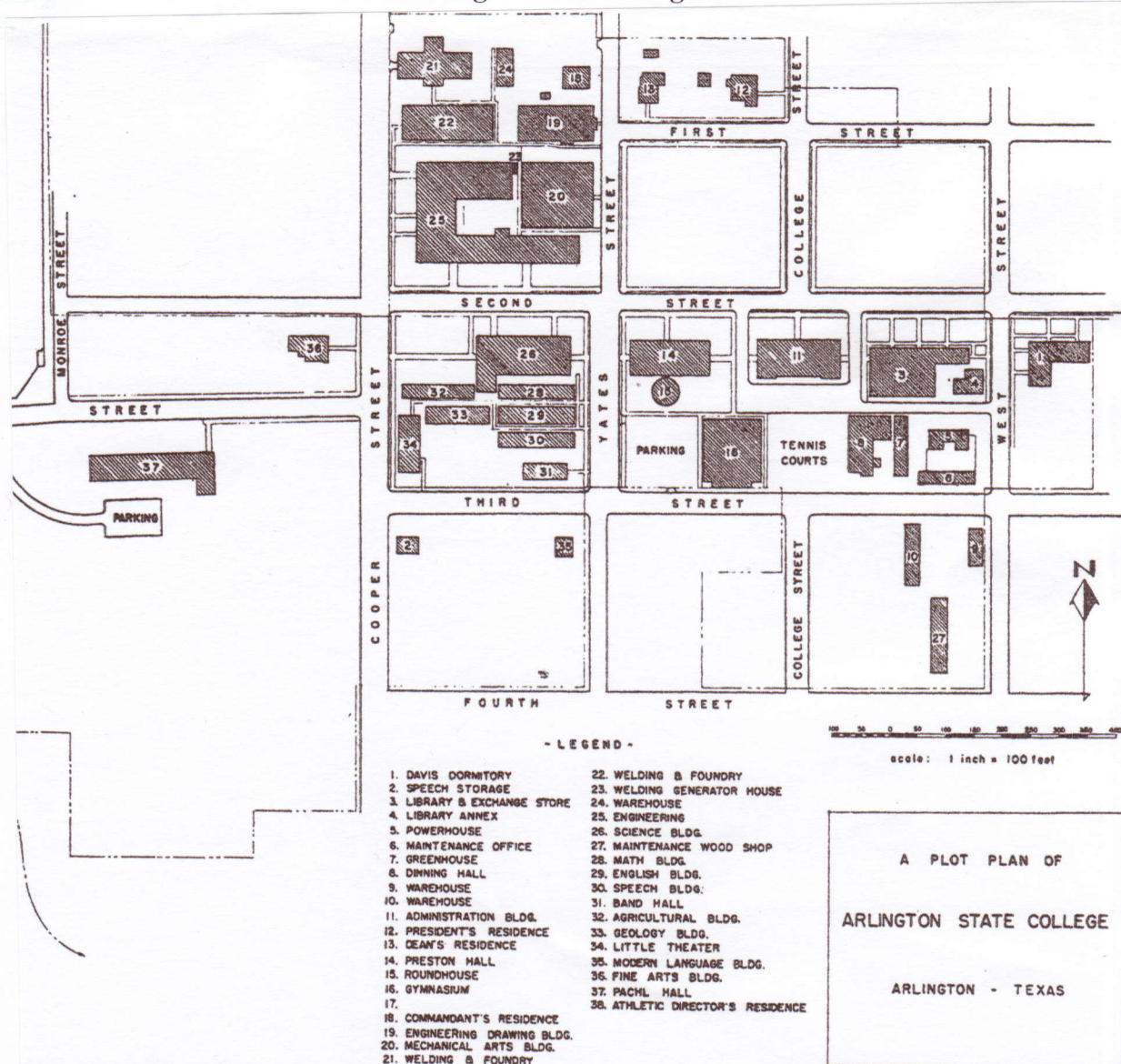
Town-

Nearly all streets were paved and the population was 8500.

Water-There were five deep wells, the only water source. All of the facilities were improved.

Fire Department-Chief and 24 volunteer men were not paid. Driver was paid. Station No. 1 on West Main Street remained the only one. The equipment in 1944 was one American-LaFrance engine, one 1942 Ford engine, one Reo engine in reserve, and a Reo hose truck. Alarm was by telephone and electric siren. Wood shingle roofs were prohibited within Fire Limits.

Arlington State College 1952

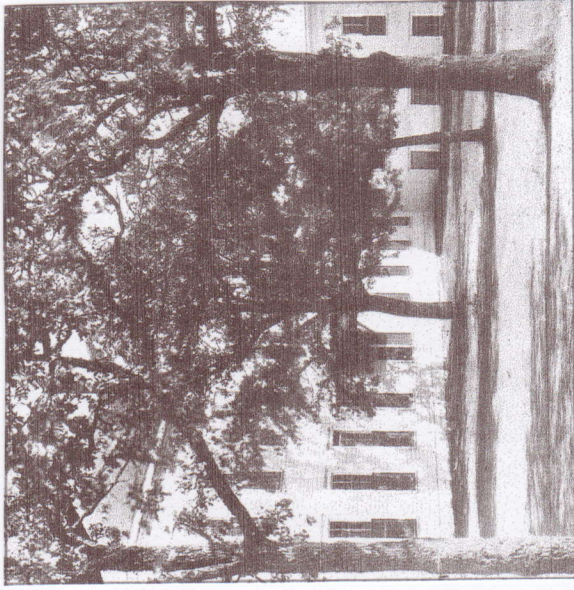


This schematic map of Arlington State College was printed in a 1952 Bulletin. ASC remained a junior college. The map reflects two changes in the college that were consequences of the great depression and the war years. During the depression there were few jobs available to technical graduates, so students elected academic majors more often, with the expectation that it made them more flexible fitting into careers. Agricultural surpluses made farming unpromising. And the war had shown that new technical skills for aviation and electronics were in demand.

Campus-The new Science Building (26) completed the row of permanent buildings on the south side of Second Street. All are still in use. The northwest block served to provide the new technical emphasis, featuring engineering and new technology. Pacht Hall men's dormitory opened in 1949 west of Cooper Street and the football stadium was west of Monroe Street. All the streets were still open and there were parking lots in most of the open space as ASC began to earn its label as a commuter school.

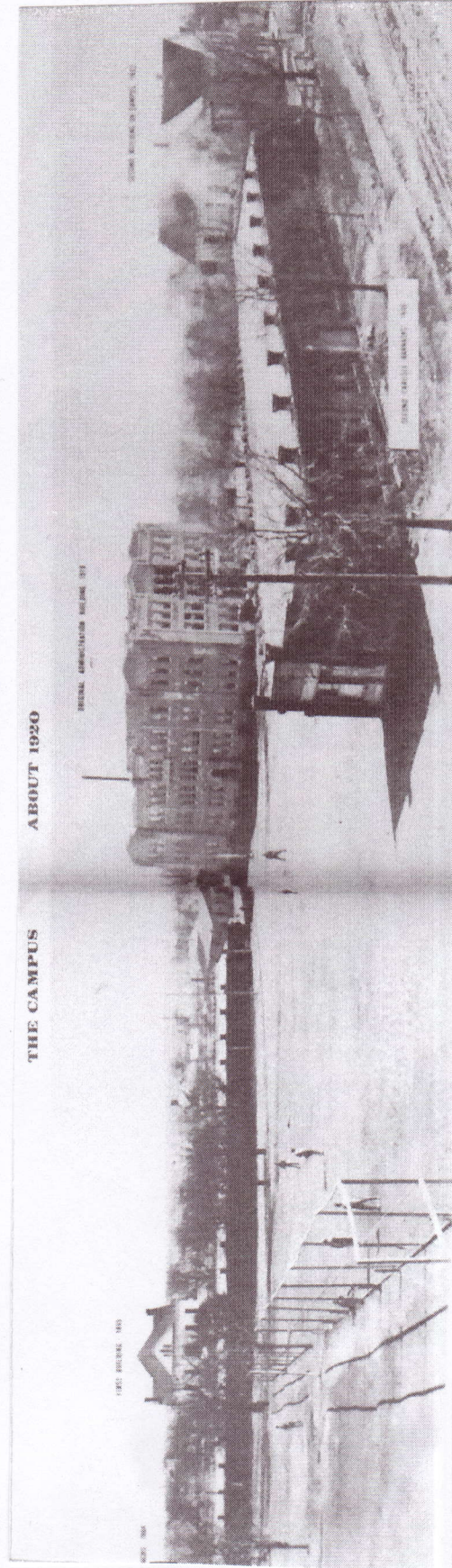
Town-Tom Vandergriff was Mayor. Arlington was regarded as a good bedroom community.

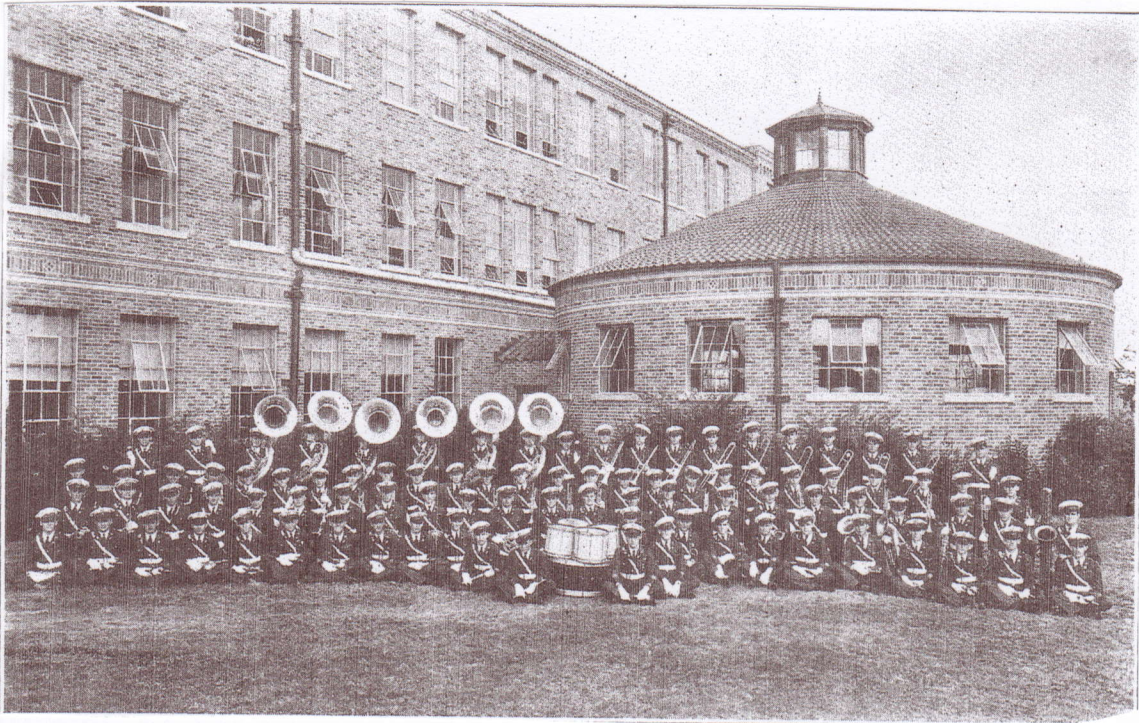
A 1926 photograph shows a part of the 1895 Arlington College building on the right and some of its annex built in 1915, with the first floor half depressed. The annex was the location of the first science classrooms and was a late addition in the Arlington Training School period.



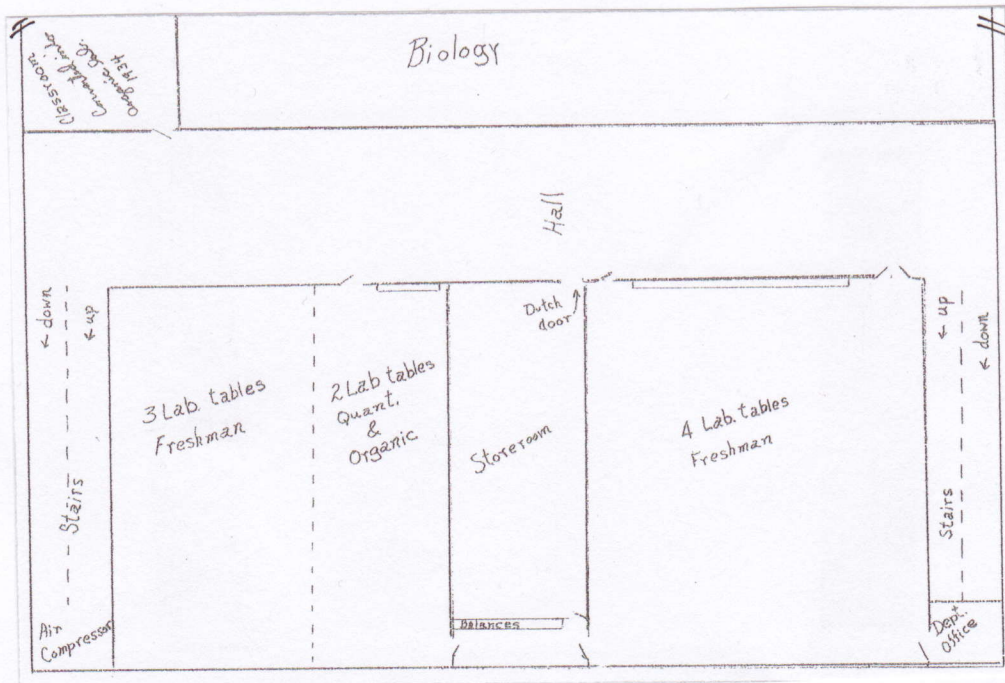
Below is a panoramic view of the Grubbs Vocational College campus in about 1920. The parade ground and barracks are in the foreground. The Arlington College building, Grubbs Administration building, and the mess hall/dormitory are behind.

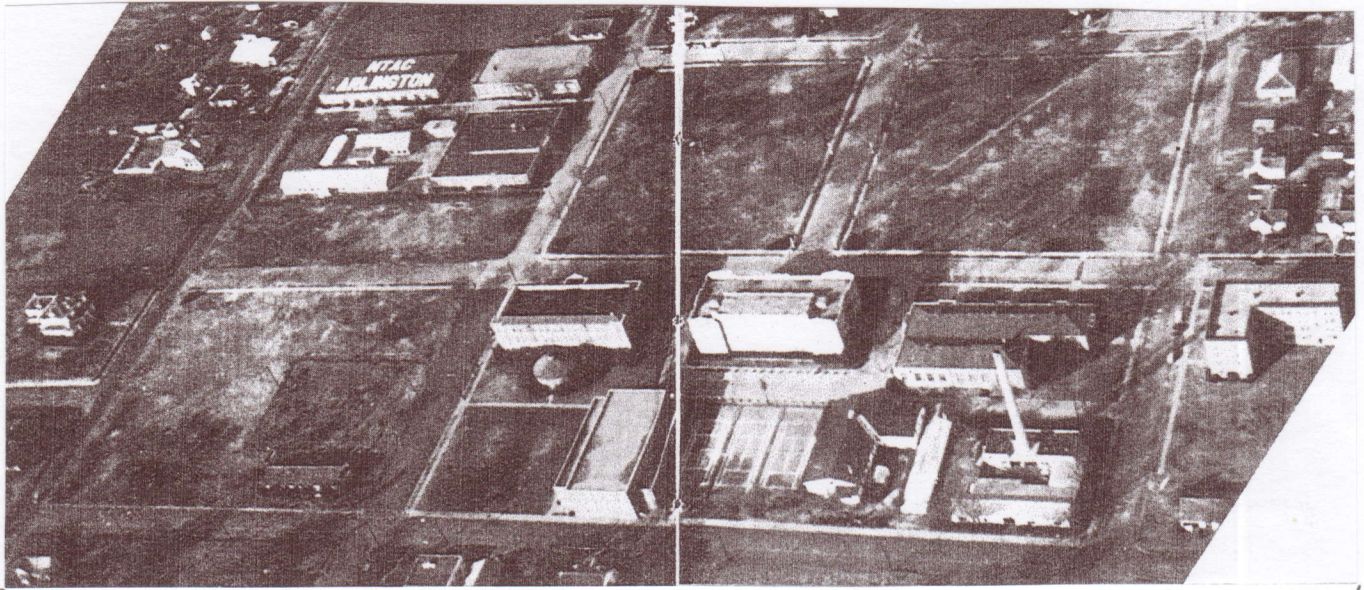
C7





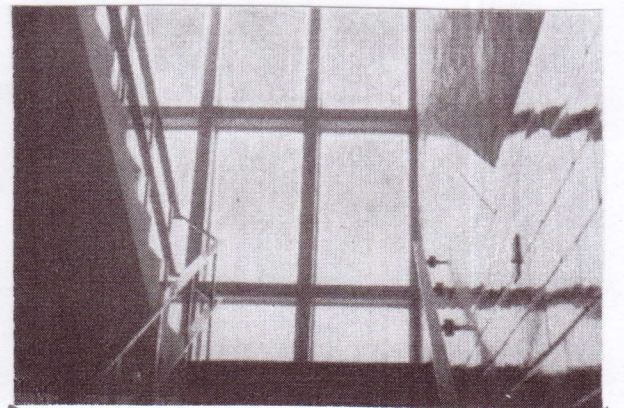
The first Science Building, built in 1929 and now named Preston Hall. The chemistry laboratories were on the second floor shown behind the distinctive Roundhouse. Below is the drawing by John Murchison of the chemistry spaces.

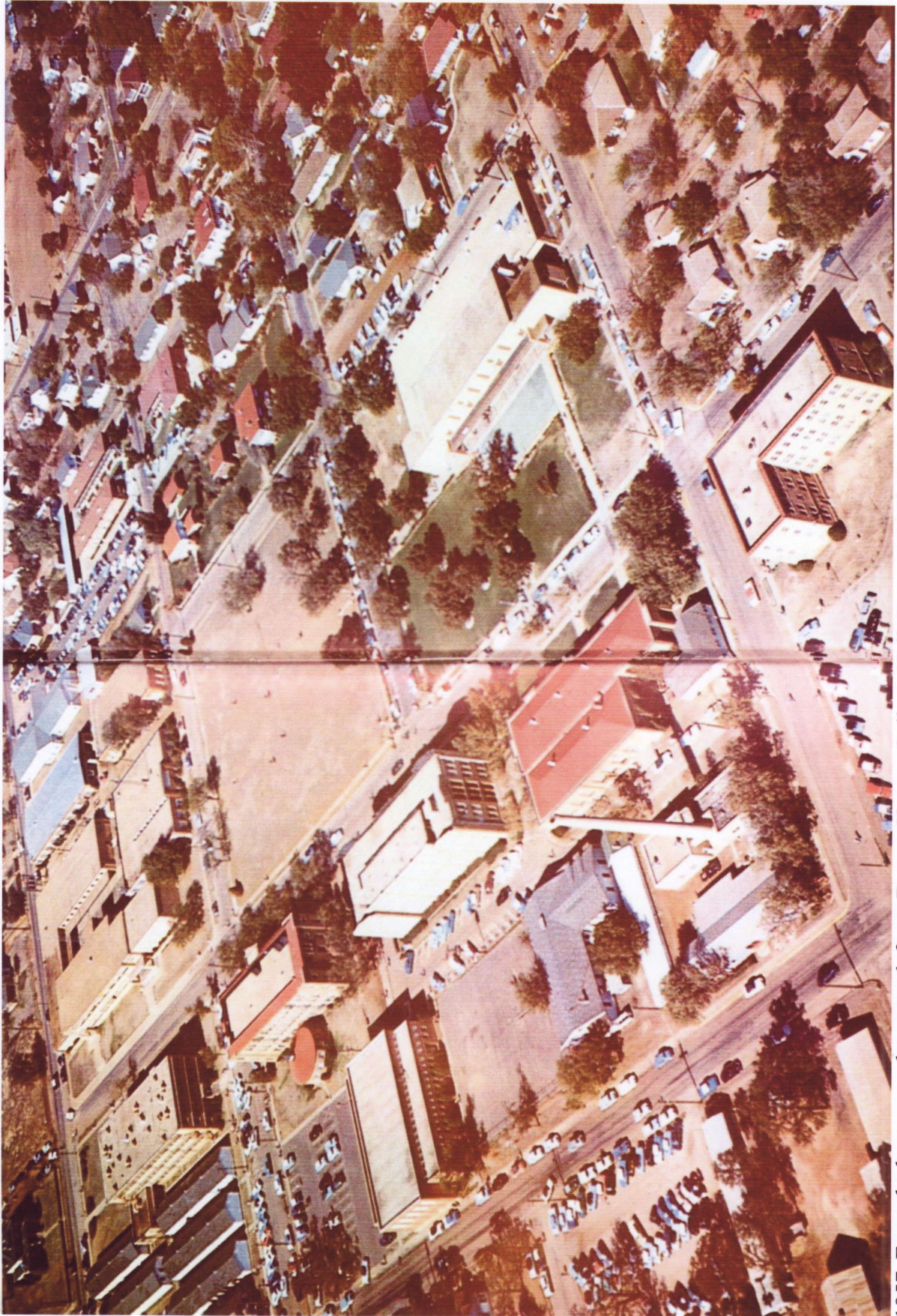




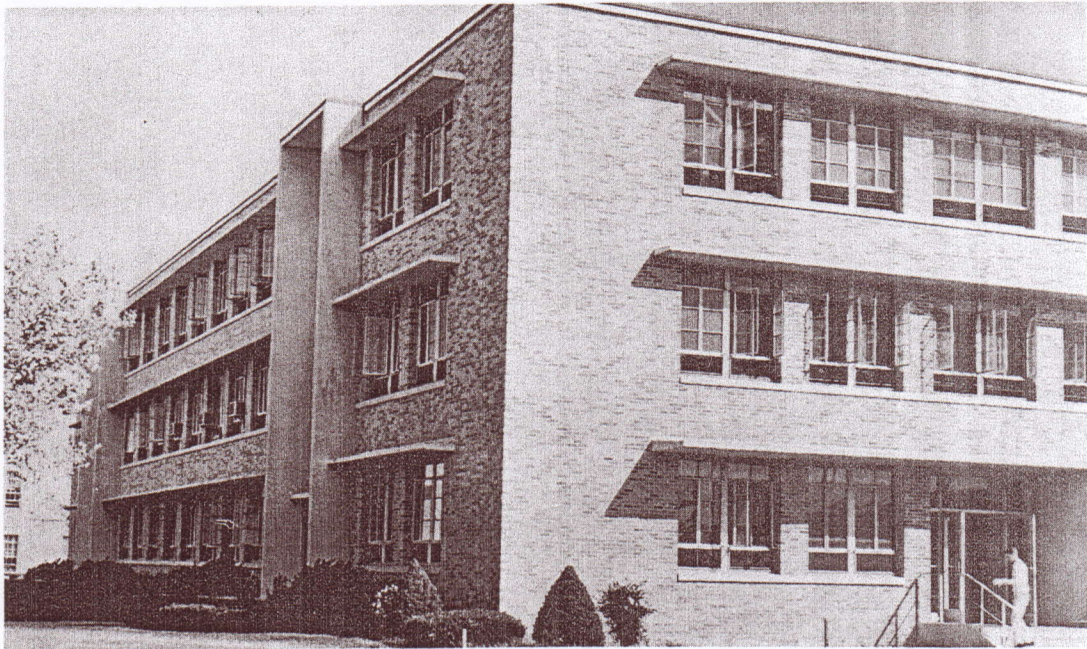
Above: 1946 aerial photograph looking north. 2nd Street extends from Cooper Street past West Street. The block west of Preston Hall and the Roundhouse is the future site of Science Hall.

Below: Science Hall in 1952 viewed from the parade ground north of Preston Hall. Inside looking west in the 1st floor hall and at distinctive windows on the north wall stairwell landings.





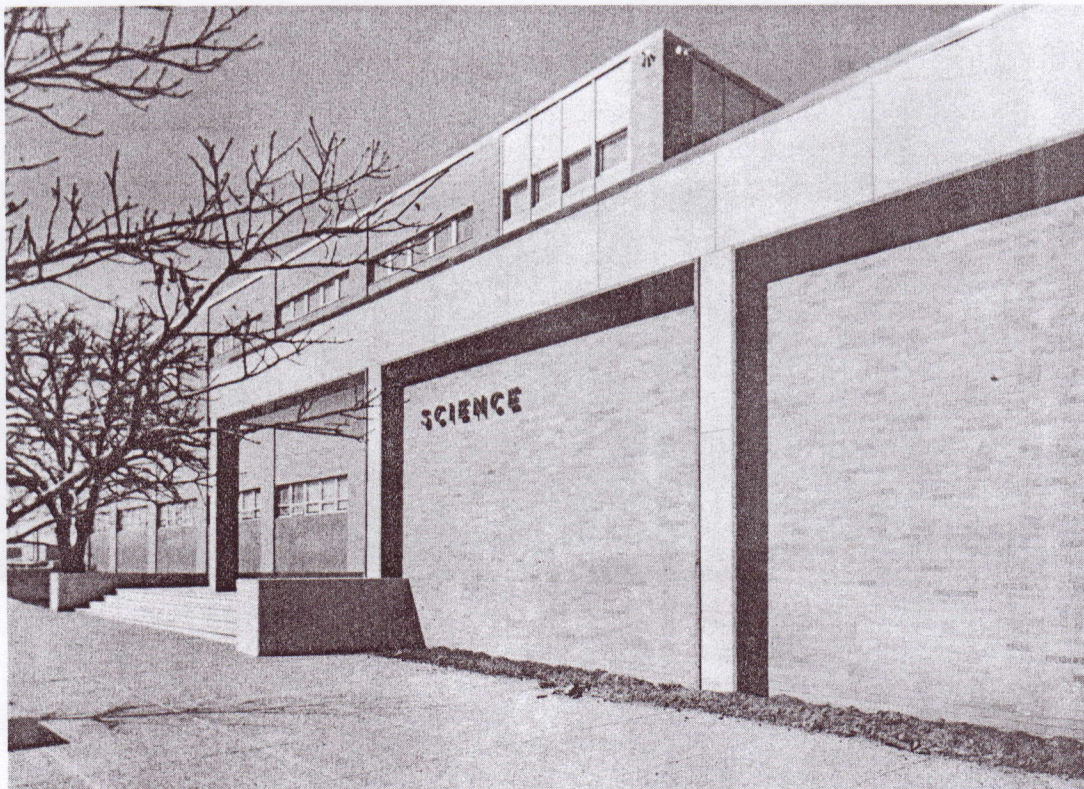
1957 From the bottom to the upper left are Brazos House, College Hall, Ransom Hall, Preston Hall and Science Building



1962

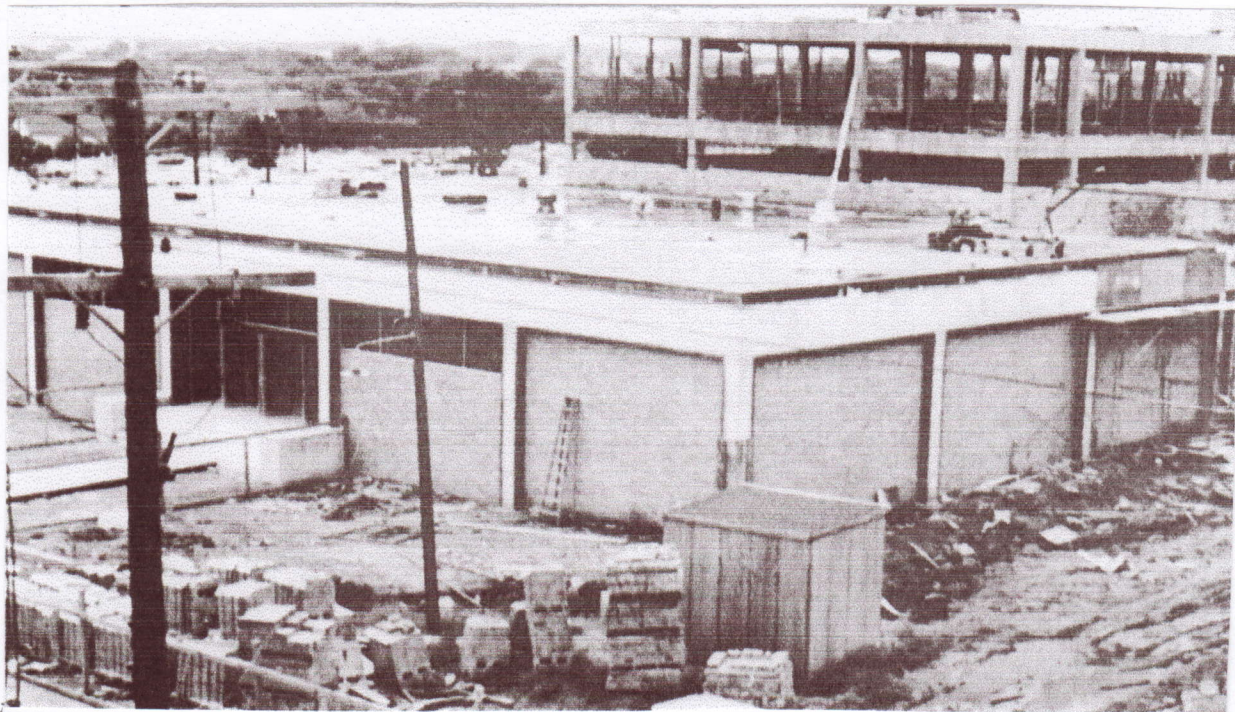
SCIENCE BUILDING

The Science Building houses classrooms and laboratories for instruction in chemistry, physics, and biology. A lecture amphitheater for practical demonstrations in science course work is located on the ground floor. Modern equipment and displays in spacious and well-lighted laboratories are located on the upper floors.



1965

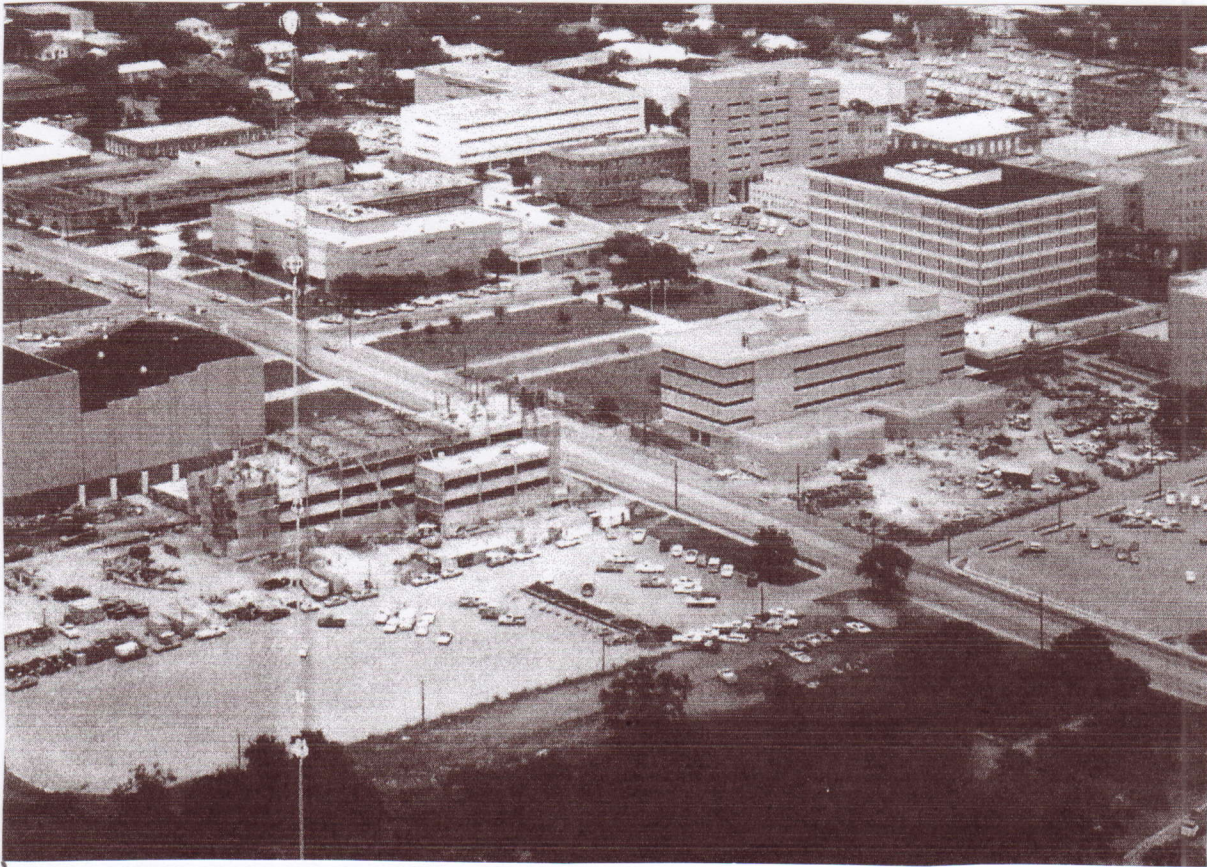
THE SCIENCE BUILDING covers one whole block of the ASC campus. The air conditioned structure contains the latest in laboratory equipment and research aids for study of the natural and physical sciences.



1963: Science Hall Addition under construction. The lecture room suite is in the foreground and the three story section is behind. The caption to the photograph stated that Science Hall would house the biology, chemistry, math and psychology departments.

1967: Ray Hoyle lecturing to general chemistry students in Science Hall 100.





1970: Aerial view of UTA from the southwest. The campus center has been re-oriented to the Library Mall. Science Hall is north of the lawn, around which are the six floor Library, University Hall, Cooper Street, Davis Hall under construction, and Texas Hall Auditorium. 2nd Street was closed and converted to a long mall from Cooper Street to the University Center, as shown below. 3rd Street was still open and you might be able to park on the south or east side of Science Hall. The double row of live oak trees was established along the 2nd Street mall.





1970 View from the North. Science Hall is right of center.



The W. A. Baker Chemistry Research Building, opened 1996, and nearby the historic Roundhouse



C15



The Chemistry and Physics Building, opened 2006



C16

Campus

Front Cover picture, Carlisle Military Academy at Arlington, Courtesy University of Texas at Arlington Photograph Collection, Special Collections, University of Texas at Arlington, Arlington, Texas.

C1. Carlisle Military School, 1905 Sanborn map, Texas Digital Sanborn Maps, Sanborn Map Company, accessed via Digital Databases, University of Texas at Arlington Library.

C2. Carlisle Military Academy, 1911 Sanborn map.

C3. Grubbs Vocational College and Junior A&M, 1917 Sanborn map.

C4. North Texas Agricultural College, 1927 Sanborn map.

C5. North Texas Agricultural College, 1932-1944 Sanborn map.

C6. Arlington State College, 1952, 1952 Bulletin. The 1952 Bulletin of Arlington State College and the Yearbooks, Junior Aggie from 1923 to 1949 and the Reveille from 1950 to 1982 are available in the University of Texas at Arlington Library, Special Collections.

C7. Arlington College Annex and Grubbs Vocational College 1920, 1926 Junior Aggie, 1970 Reveille.

C8. First Science Building (Preston Hall), 1935 Junior Aggie, ChemSpek II, page 2, Fall 1986, drawing by John T. Murchison.

C9. 1946 Aerial Photograph and Science Building, 1946 Junior Aggie, 1952 and 1954 Reveille.

C10. 1957 Aerial Photograph, 1957 Reveille.

C11. Science Building and Addition, 1963 and 1965 Arlington State College General Information Bulletins.

C12. Science Hall Addition Construction and General Chemistry Class, 1963 and 1967 Reveille.

C13. 1970 Aerial View and Second Street Mall Construction, 1970 Reveille.

C14. 1970 Aerial View, 1970 Reveille.

C15. W. A. Baker Chemistry Research Building, Thomas J. Cogdell photo.

C16. Chemistry and Physics Building, Thomas J. Cogdell photo.